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DEVELOPING A THEORY OF EDUCATIONAL PRACTICE FOR THE ELEMENTARY SCHOOL. PROJECT REPORT TO THE FORD FOUNDATION FUND FOR THE ADVANCEMENT OF EDUCATION.

BY- K. YA, ESIN AND OTHERS
NORWALK BOARD OF EDUCATION, CONN.
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A TWO-YEAR COOPERATIVE RESEARCH PROJECT (1965-1967) WAS CONDUCTED TO SYNTHESIZE THE BODY OF AVAILABLE EMPIRICAL KNOWLEDGE RELATED TO EDUCATIONAL PRACTICE IN A MANNER TYPICAL OF SCIENTIFIC THEORY CONSTRUCTION AND TO DEVELOP A DICTIONARY OF OVER 600 COMMON EDUCATIONAL TERMS OPERATIONALLY DEFINED IN AN APPENDED GLOSSARY. THE THREE MAIN PHASES OF THE STUDY INCLUDED--(1) OBTAINING EMPIRICAL PROPOSITIONS FROM REPORTS OF OTHER STUDIES IN THE FIELD, (2) INDUCTIVELY GENERALIZING THEORETICAL PROPOSITIONS FROM THESE EMPIRICAL STATEMENTS, AND (3) FORMULATING HYPOTHETICAL PROPOSITIONS TO BE TESTED IN ONE OR MORE ELEMENTARY SCHOOLS. BASIC TO THE STUDY WAS THE AXIOM THAT EDUCATIONAL PRACTICE EXISTS PRIMARILY TO ACHIEVE PUPIL BEHAVIORS IN SIX DEPENDENT VARIABLE CATEGORIES--KNOWLEDGE, TOOL-SKILLS, COGNITIVE DEVELOPMENT, SOCIAL-EMOTIONAL GROWTH, ATTITUDES AND INTERESTS, AND SELF-DIRECTION. INDEPENDENT VARIABLES INCLUDED PUPIL VARIABLES, TEACHER VARIABLES, ADMINISTRATION, SCHOOL ORGANIZATION, SCHOOL PLANT, INSTRUCTIONAL METHODS, CURRICULUM, CLASSROOM ENVIRONMENT, SPECIAL SERVICES, AND COMMUNITY FACTORS. FROM A REVIEW OF PREVIOUSLY PUBLISHED STUDIES LISTED IN AN APPENDED BIBLIOGRAPHY OF 1,007 ITEMS, AN EXTENSIVE TAXONOMY OF FINDINGS WAS SUMMARIZED UNDER FOUR MAIN HEADINGS--(1) TEACHER CHARACTERISTICS, ROLES, AND BEHAVIORS, (2) CURRICULAR MATERIALS AND METHODS, (3) SCHOOL ORGANIZATION, AND (4) ADMINISTRATOR CHARACTERISTICS, ROLES, AND BEHAVIORS. FOR TESTING AND FURTHER THEORY DEVELOPMENT AN OPERATIONS MODEL FOR EDUCATIONAL PRACTICE WAS FORMULATED IN FOUR DIMENSIONS--OPERATIONS, PERFORMERS OF OPERATIONS, INPUT VARIABLES, AND PUPIL OUTCOMES. (JK)

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DEVELOPING A THEORY OF EDUCATIONAL PRACTICE FOR THE ELEMENTARY SCHOOL

A Project Conducted Cooperatively
by
The Norwalk Connecticut Public Schools and New York University
Sponsored by
The Fund For The Advancement Of Education

Esin Kaya, Principal Investigator, Ph.D.
New York University

Muriel Gerhard, Field Project Director
Norwalk Public Schools

Anne Stasiewski, Research Associate
Norwalk Public Schools

David Berenson, Research Associate
Norwalk Public Schools

June 30, 1967

Norwalk Board of Education

Harry A. Becker
Superintendent

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Esin Kaya, Principal Investigator, Ph.D.
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Muriel Gerhard, Field Project Director,
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Norwalk Public Schools

David Berenson, Research Associate
Norwalk Public Schools

June 30, 1967

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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PREFACE AND ACKNOWLEDGEMENTS

A project which attempts to deal comprehensively with almost all aspects of elementary education can only be the product of concerted efforts by the many individuals and groups directly or indirectly contributing to it. In a true sense, staff from each project reviewed in this study participated in the formulations about educational practice. Many school systems, universities, and agencies sponsoring research lent their assistance by making available needed, but frequently unpublished, information.

In the Norwalk School System, invaluable leadership and support to the project was provided by the Board of Education, Superintendent Dr. Harry Becker, and members of the central administrative staff. Dr. Milton Wartenberg, Director of Curriculum, served as primary liaison between the research staff and the Norwalk School System, and greatly facilitated the administration of the project by his continuing guidance and interest. The professional help of the department heads enhanced both the quality and scope of the study through their knowledge of their content areas and their willingness to give direction and constructive suggestions.

Special mention must be made of the role played by Miss Helen Patterson, former Assistant Superintendent for Instruction, in bringing

about the continuing relationship between the Norwalk Public School System and New York University. Without her foresight, spirit of experimentation, and administrative skill, this study would probably not have come about.

At New York University, members of the Division of Administration and Supervision, as well as Dr. Lou Kleinman and Dean Daniel Griffiths, played important parts in stimulating and administratively facilitating the execution of the project. Several members of the New York University faculty also took part in our four-day theorising workshop and contributed in large measure to the specific theoretical formulations.

Thanks are also extended to Miss Marjorie Martus and Miss Brenda Cox of the Ford Foundation for their continuing personal interest in the project and their active participation in the theoretical developments.

The vast scholarship, experience, and imaginative insight which the consultants brought to bear on the study have affected every area of it. Each of them, individually or in the group session, contributed new ideas, gave direction to the organization and clarification of existing ones, and, without reserve, tried to make the study a better one. Any shortcomings in the use of these contributions lie in our own limitations. I wish to express my heartfelt gratitude to everyone who contributed directly to the content of the study and stimulated further thinking on the part of the project staff.

To the research assistant, Mrs. Joan Brett, go the staff's profound thanks for the multitude of tasks she has meticulously performed. Also, we extend our sincere appreciation to Mrs. Alice Ryan, Mrs. Dina Kenez, and Miss Paula Treichler, project secretaries in Norwalk and New York University, for their patience, competence, and loyal support.

As the principal investigator for the study, I wish to thank my research associates Mrs. Muriel Gerhard, Mrs. Anne Stasiewski, and Mr. David Berenson for their devoted, untiring, and sustained contribution of energy in taking upon themselves a major portion of responsibility for conducting the project. No amount of appreciation is enough for the long extra hours they spent traveling, searching and clarifying ideas, bringing together and sifting through vast amounts of data. I am grateful for the privilege of having been associated with such a forward-looking group of school personnel.

Esin Kaya

June 30, 1967

CONSULTANTS TO THE PROJECT

Dr. John O. Bolvin	Associate Director, Learning Research & Development Center, University of Pittsburgh
Dr. Nicholas Fattu	University Professor of Research, Indiana University
Dr. Miriam Goldberg	Professor of Psychology and Education, Teachers College, Columbia University
Dr. Robert Granger	Professor of Educational Administration, New York University
Dr. Daniel Griffiths	Dean of School of Education, Professor of Educational Administration, New York University
Dr. Hulda Grobman	Professor of Secondary Education New York University
Dr. John Hough	Assistant Dean, Teacher Preparation Division, Syracuse University
Dr. Marie Hughes	Professor of Education, University of Arizona
Dr. Richard Lonsdale	Head of the Division of Administration & Supervision, New York University
Mr. William McCoy	Architect, Perkins and Will, White Plains, New York
Mr. John Shaver	Architect, Shaver and Company, Salina, Kansas
Dr. Harry Silberman	Head, Education and Training Staff, Technology Directorate, Research and Technology Division, System Development Corp.
Dr. Robert M. W. Travers	Professor of Educational Psychology, Western Michigan University
Dr. Norman Wallen	Professor of Education, San Francisco State College

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INTRODUCTION

Purpose.

The major objective of this project was to develop a comprehensive theory of educational practice based on available empirical evidence. Four outcomes constituted the specific objectives of the project:

1. a scientific dictionary of selected operationally-defined variables which could serve to bring about greater agreement and standardization in the use of educational terminology
2. a synthesized summary of a large portion of findings in educational practice into a meaningful taxonomy which could serve as a guide to systematic and relevant research in education
3. a specification of the types of educational practice that would be optimum for various desired educational outcomes and which could serve as a rational basis for designing or selecting educational programs to improve education

4. an exemplary procedure for theory construction in education which could serve as a model for other systematic theoretical developments in the discipline.

Setting and background for the project.

A theory of educational practice, at least in its early stages, must be the product of cooperative effort between the theory-oriented academician and the method-oriented educational practitioner. Staff from the Norwalk Public School System and from New York University participated in such a cooperative venture for two years, September, 1965 through June, 1967, in conducting the current project.

An earlier cooperative relationship between the two institutions, which began in 1963, produced several relevant outcomes and provided the background for this project. First, six areas of educational outcomes, which had been identified in the earlier project as socially and educationally desirable, constituted the general framework for specifying dependent variables in the current project. The six areas, to which frequent reference is made throughout this report, may be stated as follows in terms of general pupil outcomes:

1. recall, recognition and retention of facts, theories, concepts, principles

2. demonstration of broad tool-skills such as reading, writing, oral communication and computing; demonstration of specific tool-skills such as correct use of microscope, slide-rule, protractor, projector, camera, and others
3. utilization of cognitive functions such as inductive reasoning, analysis, synthesis, divergent reasoning, analysis, synthesis, divergent production, convergent production, imagination and novel production, critical judgment and evaluation, approximation, classification, association, transformation, analogy, and comparison in both acquiring and applying knowledge to new situations
4. demonstration of interest in a variety of topics and areas
5. self-instruction and self-evaluation in accordance with personal objectives and environmental expectations and demands
6. demonstration of social effectiveness in interpersonal relations and emotional stability under normal and abnormal conditions of stress.

Second, the Norwalk Public School System felt committed to the development of methods and practices which would heavily emphasize

the third area indicated above; that is, the utilization of cognitive functions. Leaders in the system thought it desirable to establish a demonstration school with this emphasis, but recognized the need for a better theoretical basis on which to develop such a school.

Third, during the earlier study, the principal investigator of the current project assisted the school system in formulating methods, in training teachers and administrators to utilize the cognitive functions in modifying curricula, and in evaluating the project through field experiment. Thus, from the beginning, the staff of the current project shared the objectives of the study and a common scientific language.

To the extent that the earlier project furnished the general framework for this study and involved some of the same leadership and staff, this study may be construed to be the continuation of the previous cooperative relationship.

GENERAL TASK FOR THE PROJECT

Educational scene at the time the project was initiated.

Education as a discipline has not been regarded as a science. Even though it may have a body of knowledge and a technology of its own which characterize it as a discipline, the lack of systematic compilation in this body of knowledge has raised a question as to whether it may be called a science. Upholding of canons of scientific verifiability through replication is not widely observable in education.

The level of theorizing in education has reflected this lack of scientific emphasis. Most of the educational theories have been of a philosophical rather than a scientific type. They have been composed of sets of beliefs and assumptions reflecting the theorist's value system and past experience, rather than generalizations inductively abstracted from empirical findings.

Scientific theories, as opposed to philosophical ones, consist of a dictionary and three types of verbal statement: (1) empirical propositions which are statements of fact, (2) theoretical propositions which are generalized statements of functional relations among variables, and (3) hypothetical propositions which are statements predicting further observable relations. Scientific theorizing is

invariably an attempt to overcome the local limitations of available empirical evidence and to generalize beyond it.

The status of empirical evidence in education also has reflected the lack of scientific emphasis. Many studies concerning educational practice characteristically have lacked the operational definition of variables as well as their systematic control or manipulation.

When studies dealing with the same variable, such as flexible grouping, have been conducted by many professionals in different settings, they have lacked consistency in the use of terminology; that is, flexible grouping has meant different things to different investigators. Yet, researchers and practitioners are no longer satisfied with cliches or global descriptions of educational terms such as "flexible grouping" or "individualized instruction". Only if the discipline is equipped with a common working language, defined operationally, will it move toward becoming a science which can offer both explanations and predictions concerning the complex process of education.

Further, the many studies dealing with the same variables in different settings have lacked coordination which could yield data complementing one another. For example, factors resulting from flexible grouping in one situation may be different from those in another; and the coordination of the two might yield more information than the two conducted independently of one another. The synthesis of information which can be pre-planned to yield maximum data with

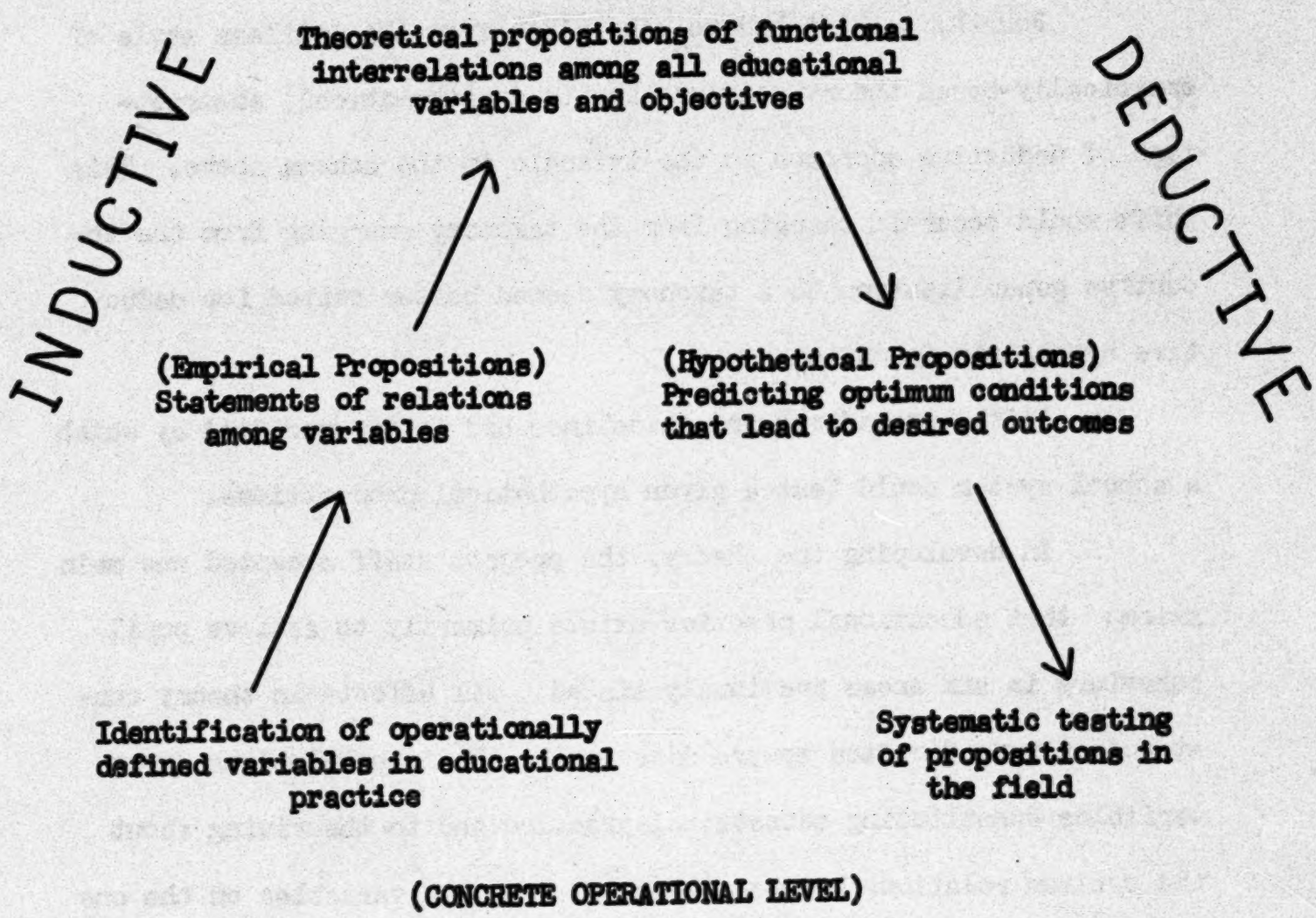
reliability would help provide education with an integrated body of knowledge. At present, educators who turn to research data find few guidelines. They are faced with a morass of inconsistent research findings. They lack a method for organizing data and classifying relevant factors. At best, stated taxonomies have been developed but fail to generate testable hypotheses. Taxonomies which are heuristic must be developed to provide an integrated body of knowledge in educational practice. This body of knowledge might serve as the basis for theorizing and for rational decision-making with regard to educational practice, innovation, research, and development.

Variables have often been studied to determine the effect of one on the other or the relationship among a very few. Furthermore, in educational practice, the variables studied are usually techniques. Scientific theory directs attention to processes and relationships among variables rather than to individual techniques. For example, it is not sufficient to know that in some cases democratic method of instruction produced higher pupil achievement. Scientific theorizing would require, at least, the specification of the situational and personal variables which interact with the teaching method to produce the effect. This kind of interrelated approach to specifying independent variables in educational practice which produce the pupil outcomes does not currently exist.

In short, even when variables have been extensively studied and some classification systems have been developed, the lack of

scientific emphasis has produced chaos rather than a systematically synthesized body of knowledge to guide further research and testing, and to make possible explanation and prediction. This project represents a concerted effort to develop at least a limited dictionary of operationally-defined common language, and to synthesize the body of knowledge related to educational practice in a manner typical of scientific theory construction. It has been an attempt to: (1) obtain empirical propositions from data available in the field, (2) inductively generalize theoretical propositions from these empirical statements, and (3) formulate some hypothetical propositions in the form of models to be tested out in one or more elementary schools.

This approach is presented in the triangular schema below.



The task involved several steps.

First, the boundaries for the type and amount of knowledge to be covered in the project had to be determined. This implied the establishment of criteria for the selection of educational projects to be included in the review and summary.

Second, operationally-defined variables relevant to educational practice and to the six areas of pupil outcomes had to be identified.

Third, statements of the relations among the variables had to be evaluated and summarized into empirical propositions.

Fourth, a shift had to take place from the Galilean style of empirically-based theory construction to a mathematical, abstract-type of deductive approach in the triangle in the schema above. This shift would occur in changing from the taxonomy emerging from the inductive generalization to a taxonomy deemed better suited for deductive hypothesis formation.

Fifth, procedures and guidelines had to be specified by which a school system could test a given hypothetical propositions.

In developing the theory, the project staff accepted one main axiom: that educational practice exists primarily to achieve pupil behaviors in six areas previously listed. All efforts in theory construction were directed toward discovering the interrelations among variables constituting educational practice and to theorizing about the optimum relations between these interrelated variables on the one hand, and the outcome variables on the other.

PROCEDURE

Planning period.

The project was granted funds for a planning period from October 1965 to February 1966. During this period, staff for the project were recruited and some time was spent orienting the new staff to the educational objectives axiomatic to the project, as well as to the project objectives. Also, preliminary contacts were made with various sources to obtain information about educational projects relevant to the study.

Selection of criteria for studies to be reviewed.

Initially, three criteria were established to select studies for inclusion in the research: (1) the study to be reviewed should be related to educational practice, particularly within a school setting; (2) it should be either an on-going project or one completed within approximately the last ten years; and (3) it should contain operationally-defined independent variables and operationally-defined objectives.

In practice, the first two criteria were modified to extend the time limit and to include some studies not conducted in the school setting. This made possible the inclusion of certain classic studies,

such as Ryans' work on teacher characteristics, which have had considerable influence in shaping later projects and to which frequent reference is made in the literature.

The third criterion was adhered to rather strictly. The only deviation was the inclusion of studies which themselves did not specify operational definitions, but in which the operations were discernible and able to be specified by the project staff.

Relations between operationally-defined variables were abstracted without critical evaluation of their reliability, accuracy, and plausibility on the part of the project staff. The reviewer noted only whether a relationship was stated but untested, or whether it had been found to exist through research. It was assumed that all found relations had met the canons of scientific investigation and no judgments were made about the verifiability of the findings.

Sources for determining projects and obtaining information.

Many sources were utilized to identify projects to be reviewed. Through questionnaires and personal contacts many individuals were approached. Local administrators and department heads, university personnel, experts in the field of education, and the Commissioner of Education in every state, were asked to contribute the names of studies or persons involved in projects. Questionnaires of several types were used, both to request names of individuals to contact and to elicit specific data on projects already identified.

Sources such as Gage's Handbook of Research on Teaching, the Encyclopedia of Educational Research, ERIC, Dissertation Abstracts, the reports of the Architectural Research Laboratory, and Office of Education reports, and other works which review and/or abstract studies, were consulted.

Major producers of educational materials were requested to identify the research studies on which their texts and other curricular materials were based. A large collection of curricular materials was gathered and analyzed by the project staff.

Education and/or research organizations and their publications were scrutinized. The yearbooks of the National Society for the Study of Education (NSSE) were examined. Conferences of such groups as the American Educational Research Association (AERA), Association for Supervision and Curriculum Development (ASCD), and the Center for the Study of Instruction (CSI) were attended.

Publications which are devoted to reporting research, such as the Journal of Educational Research, the Journal of Experimental Education, and the Journal of Educational Psychology were very fruitful sources of recent research. Within the various disciplines, specific periodicals reporting studies were useful. Included in this category were such publications as the Journal of Research in Reading, the Research Quarterly of Physical Education, Arithmetic Teacher, the Journal of Research in Science Teaching, and others.

The members of the research staff also visited on-going projects such as the Individually Prescribed Instruction Program in Pittsburgh, Suppes' computer-assisted project in California, the non-graded Parkway School in New York, Nova Elementary School in Fort Lauderdale, and the Karplus Science Program in Berkeley.

Individual consultations with leading educators and two outstanding school architects served to confirm the value of sources already used and to point out further areas where investigations might prove worthwhile. These recommendations were followed up and such works as SER Environmental Abstracts were reviewed.

Recording and information storage.

As each study was analyzed, its variables were identified operationally according to the terminology used in the study. A variable was defined as any factor which could be manipulated, observed or measured. Variable categories were established. The independent variable categories were these: (1) pupil variables, (2) teacher variables, (3) administration, (4) school organization, (5) school plant, facilities and equipment, (6) method of instruction, (7) curricular materials and sequence, (8) classroom environment and climate, (9) special services, (10) community variables and (11) other. The dependent variable categories were represented by the six areas of pupil outcomes (knowledge, tool-skills, cognitive development, social-emotional growth, attitudes and interests, and self-direction) plus a

miscellaneous category labeled "not directly related to pupil outcomes".

After each variable in a project was identified, its relationship to an operationally-defined outcome was determined. The relation between the independent variable and the outcome was written on a card and filed both under an outcome category and under an independent variable category, with cross-referencing (see Appendix A for sample cards). It became apparent in the course of the review that many relations reported were of the correlational rather than the cause-effect type. Hence, in storing and summarizing the relations, these differences were provided for.

On each card, the source of the relation was indicated and a designation was made as to whether the relationship had been found or stated. Relations were defined as follows:

Group A: Formally stated relations. These were stated in the reports by authors or investigators but were never tested or observed to exist.

Group B: Found relations. These were not only stated but found to exist through observation or testing.

The project staff spent the period from February 1966 to February 1967 collecting the data and filing the variables and relations into their appropriate categories. Many questions were raised by all members of the staff as to whether some definitions were in fact operational, and many hours were spent in discussion and search for objectivity. As the project progressed, each staff member accepted

one of the following major areas as his area of concern: (1) teacher behaviors, personal characteristics, attitudes, and roles; (2) curriculum materials and method of instruction; (3) school organization; and (4) administrator behaviors, personal characteristics, attitudes, and roles. This division of labor evolved partially as a function of each member's past experience and interest, and partially because of the categories into which available data seemed to fall. Even though members of the staff had designated areas of responsibility for collecting data, in actual practice there was a great deal of overlap.

The next stage in the procedure involved the synthesis of all the filed relations into a series of empirical propositions integrated within an arbitrary taxonomy. This stage was characterized by information retrieval, summary, and generalizations, and consisted of activities which followed several directions simultaneously.

First, the project staff simply counted the frequency of a given type of relation. This was considered to be a rudimentary organization of data which might suggest a category system for the taxonomy of relations to be generalized. This preliminary organization was presented to a number of consultants specializing in the major areas within which the reviews were conducted (see Appendix A for the organizational relations). The consultants and project staff (sometimes together and sometimes independently of one another) attempted to summarize the data and further abstract some generalizations.

The summaries of data which were compiled by the project staff following consultations are reported in the section on results. These summaries, however, do not constitute the empirical propositions which were to be derived from the data. The empirical propositions, as well as the theoretical and hypothetical ones, were expected to be developed with the group of consultants on the basis of the empirical data. The development of the empirical propositions was to constitute the second major step in the inductive process. A very interesting phenomenon occurred in this second step of working with the consultants, one which probably should have been anticipated. Different groups of individuals began to operate with different objectives in mind. The project staff itself seemed to be ambivalent about the feasibility of inductive generalization. Some thought that the generalizations should be immediately applicable to practice in an actual school to be designed. Others thought that a higher level of generalization was still required prior to application to practice. Those who held the former view essentially could not move out of the taxonomic organization suggested by the categories within which the data had been collected. Those who held the latter view searched for a new taxonomic organization which in turn could integrate and interrelate the preliminary categories and provide the theoretical basis for deriving hypothetical propositions.

The difficulties arising from this difference in approach did not become clear until the consultants were brought together in

a working-conference. At this point the individual consultants contributed enormously in two ways: (1) in summarizing the data within individual categories, such as teacher behaviors and their effects on pupil outcomes, and (2) in bringing about an awareness of both the problems and feasibilities of testing hypothetical propositions in the field.

The theoretical and hypothetical development was based not only on the data but also on the points and suggestions offered by consultants during both the individual and group sessions. Although these points were often pulled out of context by the principal investigator, they have contributed to the formulations presented in the following discussion of results, as well as the discussions concerning theorization and formulation of the hypothetical propositions. In the course of the project, the step involving the statement of empirical propositions had to be omitted for reasons explained later in the report. Beyond this omission no changes were made in the procedure.

RESULTS

In this section the outcomes of the study are presented in relation to the objectives previously listed.

The first anticipated outcome was a scientific dictionary of operationally-defined educational variables. A selected group of terms and their definitions are given in Appendix B. Although several definitions were abstracted from the literature for many of these terms, only the definition accepted by the project staff as most clear and consistent is given in the appendix. The terms are listed in alphabetical order. The phrasing of the variable definition is consistent with its operations reported in a given project which is identified by the reference to the bibliography. The selected group represents the terms for which clear, operational definitions would be obtained from the studies. Those that needed further interpretation and objective deliberation are not included in Appendix B. However, the relations incorporating these variables have been utilized in the total body of evidence presented in this report.

The second anticipated outcome was a synthesized summary of a large portion of findings in educational practice into a meaningful taxonomy. All projects represented met the predetermined criteria for selection. At least an equal number were examined which did not meet these criteria and therefore, are not included in the summary. The

bibliography presented at the end of the report includes all the studies which were reviewed.

Individual relations between variables of educational practice and educational outcomes were derived from the sources reviewed. These relations and their frequency of occurrence are reported in Appendix A. These constituted the preliminary summary of the data collected. Further summarization based on the findings was conducted in each of four areas: (1) teacher characteristics, roles, and behaviors; (2) curricular materials and methods; (3) school organization; and (4) administrator characteristics, roles and behaviors. Each of these is reported in a separate section. The individual summaries are followed by a general integration into a taxonomy which emerged from the categories into which the data fell.

School organization.

Traditionally the elementary school classroom in the United States has consisted of a self-contained unit in which one professional has been assigned the responsibility for instructing a number of pupils (usually 25 to 35) of a given age for the total school program. During the past ten years many assaults have been made on this practice; educators have raised questions concerning both the efficiency and effectiveness of such a pattern of organization in an age of great technological growth and development. They state that with the increasing accumulation and importance of knowledge, it is no longer possible for

the traditionally-trained elementary school teacher to be capable of teaching all subjects to all children with equal skill and effectiveness.

Proponents of change have advocated modifications from the one teacher per group for the entire curriculum to a variety in class size, teacher specialization, teacher and student mobility, etc. Cooperative teaching, team teaching, the dual progress plan, the non-graded school, a continuous progress curriculum, the Joplin Plan, and others, have been proposed as organizational structures and have been implemented in varying degrees, with a variety of results. Paradoxically, the advancing science of human growth and development indicates that in this age of rapid technological progress it may be more important for a child of elementary school age to have an intimate association with an individual teacher who will be in a position to understand him and to provide for his individual differences in ability, maturation, and potential.

A large number of studies of school organization have proposed to assess the relative value of the new programs, in an attempt to prove their greater efficacy in promoting pupil achievement.

The analysis conducted in this project of the specific factors which have been manipulated in each of the new organizational patterns reveals the following major groups of variables:

I. Grouping practices including number of grups, size of group, and type of grouping (achievement and/or ability groups, multi-age grouping, pupil teams, individual or independent study)

II. Scheduling procedures such as block scheduling, changing classes, modular or core arrangements

III. Personnel utilization incorporating teacher specialization and assignment, teacher cooperation in planning and evaluation, the number of teachers, and the employment of auxiliary personnel (aides, paraprofessionals, lay readers, etc.)

IV. General programs such as team teaching, dual progress plans, nongraded schools, and New York City's More Effective Schools Program

Grouping practices. The number of groups in which a child is placed seems to have its greatest effect on social-emotional development and pupil attitudes and interests since pupils come in contact with more children and adults. At the primary level children

who were placed in several groups tended to describe their teachers as more punitive and less supportive. The slow-learning child made more affectionate remarks about his home room teacher than did the average or above average child. (2,3) The self-concept of primary age children appeared to be enhanced by placement in several groups; first and second grade youngsters of all ability levels predicted that they would be successful in school the following year. (2,3) Social contacts, as measured by the number of peers which six- and seven-year-olds were able to name, were significantly broader when children were placed in more than one group. (2,3,188)

Just as the "one teacher per self-contained classroom" concept has been challenged by organizational innovations, so has the idea of static class size. It is quite possible that the traditionally accepted norm of 20-30 children in a group may prove somewhat less effective or desirable than larger or smaller groups. Appropriate class size may be considered a function of several factors, including the nature of the activity, the maturity and ability of those being taught, and the competence of those doing the teaching. (258,971)

The maximum size recommended for discussion groups was usually 12, more optimally 8. A group size of 5-8 has been suggested as suitable for maximizing the number of possible interactions, and creating the opportunity for any given individual to be successful in relating to all others. (969,971)

Placement in groups of 5 to 12 was found to stimulate oral participation by shy students, yet encouraged talkative students to listen. Small group discussion led to consensus or change in consensus. Instruction in small groups also facilitated learning in tool skills and knowledge when instruction was conducted mainly by the teacher. (2,41,91,116,119,120,128,200,201,240,282)

Teachers who worked with small groups were observed to change their behavior in ways which would have positive effects on pupil outcomes: they changed from the lecture method to discussion, observed their students at work, made recommendations concerning special skills, abilities and needs of students. Teachers of small groups were also found to know more about their students' personal history. (91,178,226)

Large groups have been defined as any number from 12 to 400. Hundreds of students may be grouped together for films, television, dramatic presentations, and other passive activities. When interaction was a goal, groups which were larger than twelve resulted in some members becoming performers and others spectators. The implication here was that a group of 35 might as well be 100 or more since each youngster could not cope with the tremendous number and range of reactions demanded of him. (969,971)

The major advantages of large group instruction have been in more effective utilization of teacher time and more efficient use of space and materials. Teachers have been freed for planning,

preparation, or working with individuals or small groups. Large group instruction for lecture or film presentation has resulted in: (1) more efficient scheduling of time and space and fewer duplication expenditures for materials, (2) a greater production and use of audio-visual materials and, (3) children's planning for themselves and procuring needed materials independently. (139,183,184,185,186,187,188)

One may conclude from these findings that large group instruction is most effective when supplementary audio-visual techniques are employed and/or when children conduct independent study with or without prescribed programs.

In an attempt to reduce the amount and range of heterogeneity, pupils have often been placed in instructional groups based on achievement and/or intelligence scores and teacher judgment. Studies of homogeneous grouping from 1921 to the present failed to show consistent, statistically or educationally significant differences between the achievement of pupils so placed and that of students of equal ability in heterogeneous groups. The results of ability grouping seemed to depend chiefly on (1) the purposes behind the grouping, (2) the degree to which the grouping was made for the purposes intended, and (3) the initial ability of the children. In fact, only when general ability grouping was accompanied by efforts to adapt the means and materials of instruction to these purposes was there better achievement in homogeneous classes. (961,964)

Although early data appeared to support segregating children of low general ability (I.Q. scores of 90 or lower), more recent studies have indicated possible negative effects when homogeneous ability grouping is used for all subjects. Slow-learning children placed only in low groups tended to remain in low groups. (144) Average or below average children were deprived of the intellectual stimulation of bright youngsters. (961,964) The achievement of superior children did not exceed that of comparable youngsters in heterogeneous groups. (207) It must be noted, however, that evidence for these generalizations is sparse.

Superior children in ability groups reported significantly fewer personal problems, although such grouping apparently led to neither a greater feeling of belonging nor to better scores on tests of anti-social tendencies. Both superior and slow pupils demonstrated more favorable attitudes toward their teachers, while slow boys showed significantly more positive feelings toward school. (959)

At all ability levels, randomly grouped pupils had higher self-concepts, while there was no consistent relationship between personality (ascendency or inferiority factors, competent assertiveness, or anxiety to achieve) and grouping practices.

Teachers generally favored homogeneous classes, stating that a limited range improved the teaching situation for them, while parents and pupils usually expressed satisfaction with ability grouping. (161,961,964,965)

The current trend seems to be toward heterogeneous grouping which is believed to present greater opportunities for social and intellectual interaction. In one study, the presence of gifted children was found to upgrade the contributions of other youngsters. (959) Also, when bright pupils were included in a group, more emphasis was given to science and social studies activities. When gifted children were not present, teachers concentrated on tool skills. The ability composition of the class seemed to help determine the teacher's perception of what might be emphasized. (959, 964)

In a highly comprehensive review of the effects of ability grouping on students of predominantly middle class schools, Goldberg, Passow, and Justman concluded that neither negative nor positive effects can be attributed to such procedures. The practice can be harmful if it lulls the adults concerned into thinking it alone provides differential instruction for students of varying needs. It can be used very effectively when it is flexible and varied, making possible a number of levels at which children may be instructed. (964)

Differential regrouping for each subject (rather than one general placement based on I.Q. score or reading skill) has been the practice in many team teaching and nongraded programs. In these cases grouping which has been accompanied by differentiation in content, method, speed, and/or teacher technique has facilitated the acquisition of both tool skills and knowledge. The majority of studies of nongraded programs which featured differential regrouping reported results

favoring the nongraded groups. (41,116,120,128,131,146,200,207,223,282)

Two researchers (43,44,176) reported higher tool skill and knowledge achievement test scores. for students in heterogeneous self-contained classrooms than for comparable pupils in nongraded programs. However, Carbone (43,44) pointed out that many teachers of classes labeled "self-contained" do in fact regroup differentally for tool skill instruction on the basis of achievement. This finding confirmed the need for flexible regrouping in individual classrooms, if the current pupil-teacher ratios are to persist.

Multi-age grouping (5, 6-7, 6-7-8, 8-9-10 year olds, etc., in one class) has been considered a significant factor in achieving knowledge and tool skills, and in promoting social-emotional development and self-direction. (72,204) Although there have been few systematic attempts to evaluate such practices, it may be possible that bringing together youngsters of different chronological ages can result in fairly homogeneous ability groups. In a study of rural elementary children, no differences in achievement were found between multi-age and graded classes. (962)

Administrators have found this practice convenient for keeping class size equal regardless of the numbers of children at different age levels, and for maintaining a standard pupil-teacher ratio. Also, given children of different ages in one class, it is stated that teachers must plan for differential instruction. The philosophy behind this latter statement appears to be diametrically opposite

to that which is subscribed to by advocates of ability grouping. (72, 204)

The use of pupil teams (two or three children working together independent of teacher instruction) has been found to increase achievement in tool skills, especially spelling and arithmetic, and has fostered self-direction and self-evaluation. (61,76,77,960) Pupil team interaction also facilitated teachers' organization of time as teachers could provide individual attention while teams were working. (76,77)

Individual or independent study plans are receiving new emphasis in the elementary school, and show promise of being very useful in achieving the goals of tool skill and knowledge acquisition, and self-direction. (157,249,260) In a study of the effeciency of pupils working in pairs or alone on a rote learning task, Travers found the self-instruction mode far more efficient. The implication for teachers was that with proper devices and programmed materials many students could conduct individual self-drilling while the teacher could work with children who needed her instruction. (970) Much of the data reported in the section on curriculum supports the position that very young students (grade one and up) can profitably work independently with concrete objects, programmed texts, and devices such as the talking typewriter. Teachers and parents approve of such programs, particularly the independent research and study projects currently being undertaken by pupils in the upper elementary grades. (161)

Scheduling practices. The first type of practice reviewed concerned "block scheduling" which was observed to refer to several different types of patterns. (See Appendix B) One study reported such scheduling to be effective in correcting speech problems. It was also found to facilitate some supervisory practices, and to provide cooperative planning time for teachers. (79,153)

A second type of scheduling reviewed concerned "core scheduling" which at the elementary school level usually refers to a social studies-language arts curriculum taught by one teacher to pupils of approximately the same age. There has been no research evidence concerning the effect of core scheduling for pupil outcomes, although it has been claimed to lead to greater acquisition of knowledge and tool skills. (125,223,238,258) It has also been claimed to facilitate the economical use of materials and increase teacher specialization. (223)

Core scheduling was usually accompanied by some degree of departmentalization and teacher specialization. Many programs featuring these characteristics have also involved changing classes on the part of the pupils. In some instances teachers have done the moving, in other cases students have proceeded to special rooms. Occasionally, both teachers and some of the pupils may change their posts. A positive effect on social-emotional development has been reported, including pupils' increased liking for school. (161,215) Both teachers and students have reported increases in disciplinary

problems. (215)

An alternative to the static fifty-minute, one hour, or other period length as a method of dividing the day is "modular scheduling". Modules of 15, 20, 30, or any number of minutes which seemed useful, were established to achieve this type of scheduling. Based on the needs of individual students or teachers, or as special activities were planned, an appropriate number of these modules were designated. Modular scheduling is relatively unknown in the elementary school. As used in two middle school programs, it contributed slightly to growth in self-direction and improved pupil attitudes. (28,273) Utilizing modules facilitated administrative organization.

Instructional personnel and their utilization. Subscribing to the philosophy that it is no longer possible for the traditionally-trained elementary school teacher to be capable of teaching all subjects with equal skill and effectiveness, many of the newer organizational schemes include provisions for teacher specialization and a reduced number of subject assignments. Several studies and/or school projects have reported a direct, positive effect on pupil growth in knowledge, tool skills, and motor skills. (2,28,126,161, 232) Teacher morale and professional growth may be increased by specialization. Teachers have expressed approval of the practice, indicating that they were encouraged to engage in new practices and

enroll in additional courses in their special areas. (28, 161,186,230, 247) Parental support has also been given. (28,161)

Teacher cooperation in planning and evaluation has been an intrinsic part of most of the organizational patterns which involved differential regrouping. This practice has been stated to result in increased pupil knowledge and improved tool skills. (28,232) Teachers themselves were said to benefit in terms of improvement in instructional techniques, greater objectivity in evaluating pupils, increased familiarity with pupils' abilities and past records, and curriculum improvement. (161,187,188,230,260)

Little has been reported on the effect of the number of teachers by whom elementary school age children are taught. When several teachers work cooperatively, pupils come in contact with a larger number of adults; this has been stated to be a factor in promoting social-emotional development. Primary pupils (grades 1 and 2) tended to identify teachers by the subjects they taught rather than by name. (2, 161,188) The larger the number of teachers in a school, team, or grade, the greater was the opportunity for redeployment and specialization. (126,187)

A large number of studies of staff utilization have focused on means of assisting the classroom teacher through many devices, one of which is the use of non-professional or semi-professional personnel. Aide, sub-professional, paraprofessional, assistant teacher, and other terms have been used to describe the non-certified school worker who

assists in classrooms with children. By simplifying or supplementing the work of the teacher, the aide has helped return many school hours to tasks more directly related to instruction. For example, in various educational plans, the utilization of aides has released teachers from monitorial, clerical, and housekeeping tasks, thus permitting time for direct instruction with pupils, planning, and/or preparation. (143,186,187,188)

Recently "teaching aides" have been specifically trained to assist with the teaching task per se. They have been assigned to perform a limited number of teaching tasks with small groups of children under the supervision of certified teachers. Increased achievement in knowledge and tool skills has been directly attributed to the activities of the additional person. (60,143,155)

It has been suggested that mothers from the school community in which the population is "culturally-different" might serve yet other roles when placed in classrooms as aides. First, as members of the same sub-culture as the pupils, they may be useful in providing adult models for student behavior. They also could contribute to the teachers' understanding of the sub-culture, and serve as a liaison between the school and community. However, no research reports were available as yet. (26)

General organizational programs and their global effects. As has been previously reported, in each project or study which has been examined, an attempt was made to isolate the factors which have

been operating to produce certain effects. In general, organizational patterns may be facilitative, but in and of themselves appear to have no direct relationship to pupil outcomes. In some instances, the entire plan was credited with increased achievement by its reporters but the specific factors were not identifiable.

In the team teaching and cooperative teaching patterns, two or more teachers cooperatively plan for and instruct a group of students. Great claims have been made for such staff utilization. However, most of the published material has been descriptive in nature, much of it drawn from questionnaires. Many so-called projects have been demonstrations of preferred school practices without any research evidence. Nevertheless, teachers and students have generally supported team teaching programs by their enthusiasm and interest. (161,215) Some teachers have reacted negatively to their roles as team members. (66) A major problem still exists in defining these new roles and in training experienced teachers to fill team positions. (238)

As with team teaching, some systems have adopted or adapted other programs including the dual progress plan or a nongraded system. (See Appendix B for definitions) Some of these programs have reported increased achievement in knowledge or tool skills without indicating the critical factors operating. (41,116,120,126,161,200,282)

New York City's More Effective Schools Program has specified a cluster of variables including reduced pupil-teacher ratio, smaller

class size, increased instructional assistance for the teacher (in the form of an assistant principal for each two grades), expanded social and health services, and increased amounts of supplies and equipment. Improvement in pupil achievement in knowledge and tool skills has been attributed to this cluster, with possible emphasis on reduced class size and the more favorable pupil-teacher ratio. (144)

Whatever the organizational pattern selected, certain factors appear to be significant. Community orientation, approval, and communication are needed prior to implementation as well as throughout the school year. Teachers need to understand the purposes of the program, be prepared for new duties, and feel competent that they can work within the new framework. Administrative hindrances must be kept to a minimum, and flexibility must be carefully nurtured. (41,116,120, 128,200,228)

School administration.

Studies of administrative behavior have generally focused on behavioral antecedents, rather than on specific behaviors or outcomes of behaviors. Throughout the years of research in administrative practice, personal qualities and traits have repeatedly been subjected to scrutiny; however, the amount of useful data yielded by such inquiries has been very small. More recently, situational factors of leadership, group dimensions, and the general cultural environment have been utilized as a framework against which problems of educational administration have been measured. Social systems theory has been more univer-

sally applied, and a rather distinct differentiation between the definitions of leadership and administration has been accepted by the majority of theorists in the field. (315,344)

Few studies concerning leadership have revealed findings of the cause-effect type of relationship. Most data are correlational, and very few can be directly associated with the pupil outcomes set forth in this study. It has therefore been necessary to utilize sources other than projects within an educational setting in order to gather a cross section of data.

Two types of studies have been found: those which search for new dimensions to explain behavior, and those in which an attempt has been made to identify meaningful variables that correlate highly with leader behavior. A major difficulty in such research appears to be in securing reliable and meaningful criterion measures. Often the data are limited to teacher reaction and judgment.

Data gathered from all sources were analyzed, and the following categories and subcategories were identified:

I. Traits and personal characteristics such as age, sex, marital status, cognitive abilities, personality traits, interests and attitudes, needs structure

II. Cultural and background knowledge, and experience such as academic backgound, training and experience in teaching and administration,

knowledge of teaching and administrative practices, ratings by teachers and superiors, community, and other factors influencing administrators

III. Administrative styles such as democratic, authoritarian, paternal, laissez-faire; supervisory and cooperative administrative arrangements; managerial functions

IV. Organizational climate such as open, autonomous, controlled, familiar, paternal, closed

Traits and personal characteristics. Two major factors emerged from the comprehensive simulated school study conducted by Hemphill, Griffiths, and Fredericksen. Those principals whose overall effectiveness was rated high by teachers, superiors, and judges within the study were found to rank high on both the factor of preparation for decision making and the volume of work produced. Of the many personal qualities compared, however, only cognitive abilities, general knowledge, and some interests and attitudes of the elementary principals studied were significantly related to these basic factors. (332)

Eight administrative styles were also identified by Hemphill through an analysis of the principals' performances on in-basket items and other situations. These were variously related to the variables mentioned above, and occasionally were significantly correlated with

age and/or sex. (333) Principals with high cognitive abilities also received high ratings in executive professional leadership from their teachers. (319,320)

Demographic characteristics (age, sex, marital status, religion, etc.) appear to be unrelated to either the organizational climate of a principal's school (305) or to the degree of executive professional leadership ascribed by teachers to a principal. (319,320)

Need structure. Based on an analysis of the "need structure" of those currently employed, Kemp (979) found that the responsibilities of principal, counselor, and teacher should be considered discrete and not overlapping. The principal should not assume counseling responsibilities, the guidance counselor should not be asked to function in an administrative capacity, and no one individual should be employed half-time as a teacher and half-time as a counselor. Placing an individual with one of these discrete sets of needs in an inappropriate position might result in a change in the purpose, functioning, and outcomes of that position as the individual seeks to fulfill his needs.

Findings upon which the above statement rests were: (1) principals have significantly higher need for achievement, deference, order, and endurance than teachers or counselors, (2) teachers have a significantly higher need for succorance and nuturance than either principals or counselors, and (3) counselors differ significantly from the other two groups in their needs for exhibition, affection, and intraception.

Two implications appeared to follow: (1) the needs structure of a student applying for graduate study in any of these fields should be considered, and (2) persons who are trained in one field should examine their needs structures before considering a change to another. (979)

Cultural and background knowledge. A principal's background knowledge of general culture, science, and mathematics was generally significantly related to his administrative style (333) and ratings of executive professional leadership (319,320), but unrelated to the organizational climate of his school. (308) There was a trend toward a negative relationship between training in education and the amount of leadership ascribed to a principal by his teachers. (319,320)

Several researchers questioned either the quality or the content of the advanced academic program in administration since principals appear to have had insufficient preparation and experience in areas such as knowledge of human behavior and development, understanding of leadership and the social process, knowledge of the structure and controls of society (980), or knowledge of the specialized learnings re curriculum and instruction, student personnel, staff personnel, etc. (319,320,974,979,981)

Experience in education. Experience in teaching and administration were not found to be significantly related to the major factors of preparation for decision or volume of work (332), to professional

leadership (320), or to organizational climate. (332) Only extreme inexperience as an administrator (under five years), or extreme experience as a teacher before entering administration (fifteen or more years) were significantly related to four of the eight administrative styles. (333)

In the selection of principals in Ohio, Gordon found that age and sex were not important. If all the other qualifications were equal, the age bracket between 31 and 40 years was preferred. Candidates who had teaching experience of 5 to 10 years or administrative experience of 4 to 6 years were more usually selected. (313)

Ratings of principals. Ratings of principals by teachers and administrators generally revealed strong correlations between administrative styles and high or low evaluations of performance. Usually there was agreement between the ratings given by teachers and superiors, with superiors stressing task accomplishment styles while teachers stressed consideration and social needs satisfaction styles. (333)

Geographical conditions. Neither the regional locations, the size of the city in which a school was situated, nor the salary of the principal were related to the degree of executive professional leadership ascribed to a principal by his teachers; however, the larger the school population, the lower the rating of EPL. (319,320)

Other factors influencing administrators. As principals received social and professional support from their superiors, they in turn gave it to their subordinates, and also were rated high in executive professional leadership. (319,320)

Trask found that 75% of the principals she studied believed their superintendents thought principals should spend 60% of their time supervising instruction in general, when actually they spent most of their supervisory time with beginners. (982)

Salary or upward motivations for becoming a principal were not correlated with ratings of leadership; however, service motive was significantly related to high ratings. (319,320)

As a general rule, administrators appointed from within a system tend to stress technical and managerial rules and interpersonal relations with other staff members, while appointment from the outside has resulted in development of rules at the institutional level and impersonal attitudes. (229)

The socio-economic level of the community influences the attitude of the principal toward parent participation in school affairs. (298)

Administrative styles. Administrative styles of principals have been measured by several researchers in terms of what principals expect from teachers and how teachers perceive these expectations. However, these styles have not been related to variables other than

administrative variables. Teachers' self-ratings of effectiveness, confidence in the principal's leadership, and personal satisfaction were related to their perceptions of the principal as either task-oriented, personal-needs-fulfillment-oriented, or balanced between the two. (318) Initiating structure and consideration have been hypothesized as necessary, but not always compatible, aspects of leadership. (32)

Campbell stated that the principal's chief reference group was his staff, the teachers. In this context, also, the emerging dimensions were similar to those of other researchers. The role of the principal was to mediate between the dimensions of achievement of task and maintenance (fulfillment) of the individual's personal needs.

The principal's perception of himself was related to teachers' self-ratings of effectiveness, confidence in principal's leadership, or satisfaction. Teachers rated higher those principals who expressed concern with professional duties than those who stressed managerial functions. (319,320)

A newer approach to elementary school administration is the concept of cooperative administration in the form of an administrative or supervisory team. From cooperative teaching have come some lessons which have been applied to administration on a very small scale. Two or more principals and the staff assigned to them have been given the responsiblity for working together with the same group of teachers for all or a significant portion of the time. This approach questions the

concept of the self-contained school in a manner which is analagous to the questioning of the self-contained classroom. Teachers might be pooled and talents shared between or among buildings. Such collaborative activities might better serve the objectives of education. (977)

Cooperative teamwork among principals or supervisors has been introduced in several communities. (284,312,977,981) The results may be summarized as generally positive. The cooperation seems to lead to: (1) increased personal motivation on the part of the principals, (2) an opportunity for peer-level feedback, (3) opportunities for high-quality assistance in curriculum, and (4) the possibility of more objective evaluations of the teachers.

The style which the leader uses seems to be a function of the leader's own personality, the type and maturity of the group with whom he works, and the expectations of his superiors. (297) The principal's personal pattern of behavior in accepting and carrying out his responsibilities was related to the type of behavior that teachers exhibited. (325,370)

The democratic-autocratic dimension has been a popular means of describing educational leadership for at least the past ten years. Along the continuum intermediate points might indicate the paternal and the laissez-faire modes. Shared leadership, group decision-making, and minimizing distinctions of formal status have been stated or found to promote staff morale, group discipline, leadership ,

cooperation and responsibility. These behaviors have also been effective in improving teacher performance, implementing new school programs and achieving curriculum change. (302,304,325,342,364,370) Principals whose mode was democratic were rated high in professional leadership by their teachers. (319,320)

The paternal leadership style appears to produce submissive, dependent groups which do not accept responsibility, have low morale, and accomplish little. The lack of leadership which is usually labeled "laissez-faire" was reported to engender a group which was indifferent and disinterested, which lacked purposes and goals, and failed to achieve task accomplishment or job satisfactions. (325,370)

The seed bed for organizational change is the informal organization of the school. Too close adherence to formal line-and-staff structure may in fact result in a poorer quality of decision making and a static organization. Authoritarian leadership was stated to result in an antagonistic, uncooperative staff, characterized by low job satisfaction and little task accomplishment. (325,370)

As the school manager of administrative affairs, the principal who provided social, personal, and professional support for his staff received high rating on his leadership. (319,320) Through scheduling variable period length, rotation of classes, class size, grouping, time allotments, staffing, meeting patterns, pupil load, and number of required subjects the principal has been stated to be able to facilitate individualizing instruction. (347)

When the principal made changes based on evaluation, promoted job satisfactions for his staff, used objective criteria for evaluating teacher performance, and encouraged self-evaluation by staff members, teachers exhibited high morale, increased the effectiveness of their teaching, and fostered self-evaluation in their pupils. (370,974,981)

Organizational climate and its relationship with administrator and teacher. Six profiles of organizational climate were identified by Halpin and Croft through the use of the Organizational Climate Description Questionnaire. These climates ranged from open through autonomous, controlled, familiar, paternal and closed. Three additional parameters, authenticity (openness of behavior), satisfaction (goals and social needs accomplishment), and leadership initiation (the latitude within which leadership acts may be initiated by status leaders and group members), were also identified. The prototypes set up for each climate included descriptions of teacher and principal behaviors, relating the characteristics of the group (disengagement, hindrance, esprit, intimacy) to the behavior of the leader (aloofness, production emphasis, thrust, consideration). This carefully documented research study has provided a model for educational researchers, since every step of the study was carefully reported. Although Halpin himself found no consistent relationship between organizational climate and teacher effectiveness, more data are needed to provide a basis for further predictive studies. (326)

Physical plant and facilities.

A large number of stated relations have been both claimed and found to exist between physical environmental variables and their psychological effects on human beings. Few research studies seem to exist, however, relating physical plant variables to pupil outcomes in the school. Architects have been able to manipulate and control such variables as temperature and humidity control, and have reduced distances and congestion by designing schools with centrally located facilities.

Evaluative studies of the effect of these variables on pupil behavior, however, do not appear to be available. One may assume that research showing the effects of environmental variables (such as light, color, form) on the psychology of humans (such as mood, fatigue, informality) may be generalized to children. Some formal and informal observations indicate that instruction may be facilitated by controlling the environment, Simulation of nature in a city school, for example, could expose urban children to experiences they could not have otherwise. Carpeting on the floors seems to reduce the noise level, and, to some degree, the discipline problems in the classroom. Soft, warm colors in the library seem to produce relaxed peacefulness, whereas bright colors in the gym may stimulate high activity levels.

With the development of technology, the teacher's role may be modified. She may obtain instant films, music, programmed materials, by operating a control panel or by contacting a central control technician.

Given the above possibilities, it becomes clear that the physical plant variables need to be integrated into the general synthesis of all available data, and should occupy an important place in the final theorization.

Teacher characteristics, role functions, and classroom behaviors.

Within the past twenty-five years, the concept of the role of the teacher and the research related to teachership has undergone considerable change. There has been a decided shift in the literature from the description of the teacher as a transmitter of knowledge to the image of the teacher as a diagnostician, guide, and an interactive participant in the educative process. As the objectives of education have been expanded to encompass not only the pupil's academic achievement but cognitive growth, social-effectiveness, self-direction and attitudinal changes, the role of the teacher has taken on new dimensions.

The majority of the studies analyzed in this project provided us with cause and effect relations. The others were essentially correlational studies rendering group results not necessarily generalizable to a particular teacher in a particular situation. Although our primary concern was to gather data directly related to the six pupil outcomes, a comprhensive program yielding extensive correlational data such as Ryans' study Teacher Characteristics (involving more than 6,000 teachers, 1,700 schools and approximately 450 school systems)

merited careful consideration.

Therefore, at the close of one year, provided with the raw data gathered from numerous studies and with the six pupil outcomes, the data related to the teacher system were organized into the following categories of variables:

I. Teacher demographic characteristics such as age, sex. and marital status

II. Teacher training, knowledge, skills, and experience such as pre-service training, recency of college training, type of college attended, inservice training, professional knowledge and skills, interest in subject matter, number of years of teaching experience, grade level, and subject specialization

III. Teacher personality traits displayed in the classroom, and attitudes which included warm, businesslike, stimulating, turbulent, fearful, and critical behaviors; and attitudes toward pupils, teachers, administrators and educational viewpoints

IV. Teacher role functions and classroom behaviors such as the teacher's pattern of influence or mode of presentation, the specific teaching

methods, the teacher's selection, specification, and evaluation of goals set for pupil's and the teacher's disciplinary actions

Utilizing the attainment of the six pupil outcomes as the criterion, the categories of variables were ordered in terms of the significant direct impact they had upon these outcomes. Variable category IV, Teacher role functions and classroom behaviors, was clearly the most significant, followed by variable category III, Teacher personality traits displayed in the classroom and attitudes, then by variable category II, Teacher training, knowledge, skills and experience, and finally by variablecategory I, Teacher demographic characteristics. It should be re-emphasized that the order was a function of the direct impact on the pupil outcomes.

Modes of presentation. The numerous studies on teaching modes, approaches, influence, and style fell into two major subcategories, directive modes and nondirective modes.

The directive modes encompassed autocratic, highly controlling, direct, dominative, teacher-centered, directive, and lecturing approaches. The nondirective modes included democratic, loosely-controlling, indirect, integrative, learner-centered, responsive, discursive, and laissez-faire approaches.

Earlier research revolved around the merit of two contrasting modes, a particular mode and its antithetical mode, and contributed

significant data which was utilized; however, the more recent studies provide a more realistic view of teaching style. This research viewed the teacher not as consistently operating at the extremes such as autocratic versus democratic, but along a continuum. For example, observing teacher behavior in terms of the responsive-directive scale or the indirect-direct ratio, (I/D ratio), was far more in keeping with actual behavior. The data clearly indicated that a nondirective mode such as the Flander's indirect mode or Miller's responsive mode would best promote the six pupil outcomes. When pupils were instructed by a teacher who had a high I/D ratio (indirect-direct), utilizing indirect influence a greater percentage of the time, the pupils demonstrated increased achievement in knowledge, tool skills, and cognitive growth; increased self-direction; greater social-emotional adjustment; and positive attitudinal sets toward schooling.

The combined data related to the direct modes showed generally negative results. (373,374,375,393,403,404,405,406,407,408,409,410,411, 412,424,428,429,442,450,451,497,498) However, certain types of children need, desire, and profit from directive instruction. The majority of studies reviewed dealt with "average" children. What may have appeared initially to be an unimportant finding proved to be of value here, for the data indicated that with dependent-prone children the direct approach increased dependence, and with apathetic children more apathy was generated. (442) What was most significant was that the teacher with the high I/D ratio met the needs of all types of children.

Classroom observations reinforced the finding that the high I/D teacher was flexible and modifiable. Although she was indirect a large percentage of the time, she was able to become direct as needed. The low I/D teacher, who was direct most of the time, was unable to become indirect. It appears that the more indirect mode meets the needs of all types of children and best promotes the attainments of our objectives. (402, 405,406,409,411,412)

Additional data indicated that the high I/D teacher engaged in a greater degree of teacher-pupil planning, obtained more information about her pupils, acquired increased knowledge of subject matter, and spent far less time disciplining her class. (405,406)

Data relative to another group of modes were equally significant. For purposes of convenience these modes were labeled cognitive modes. They are characterized by teacher behavior structured to promote pupils' use of cognitive functions resulting in cognitive growth, increased self-concept, and more positive attitudes towards education. (457,476,477)

It was interesting to note that the cognitive structures were essential components of many of the indirect modes reviewed, and that the climate provided by indirect instruction fostered cognitive growth of the pupils as well as the teachers. (462) Faced with these data, one questions at this point if the intelligence of the teacher would prove to be a significant factor in fostering a specific mode of presentation. Contrary to what might be assumed, the data indicate

that the I.Q. of the teacher had only a slight effect on her mode of presentation. (424,471) However, when a comparison was made between high school and elementary teachers, the I.Q. of the teacher proved to be more significant at the secondary level. (471)

Not related specifically to any one mode of presentation, but meriting consideration, was the finding that generally when the same teacher taught homogeneous classes of pupils, one class of "low" ability and one of "average", or one of "high" and one of "average", the teachers's pattern of classroom verbal behavior was the same. (464) This finding is significant not only in that it points up the need to create an awareness for differential instruction to accompany ability-grouping, but also that the teacher's mode of presentation, whether directive, nondirective, or cognitive, should provide for differential instruction.

In summarizing the data relative to mode of presentation, it appears that both the indirect and cognitive modes best promote the six pupil outcomes, that the I.Q. of the teacher has a slight effect upon the teaching mode utilized, and that differential instruction is an essential component of any mode.

Teaching methods. At this point data related to teacher methods merits our attention. Teaching methods are the specific approaches utilized by a teacher for the purpose of instruction. They are differentiated from mode of presentation, the teacher's

pattern of influence in that the mode of presentation designates the total pattern of teacher behaviors rather than specific instructional acts. Therefore, under the classification of teaching methods, we have included the lecture, the discussion, the project method, the recitation method, the method of teaching critical thinking, the demonstration method, the self-discovery method, the self-selection method, and the multi-method approach. The results of the research in this area have failed to favor any particular method.

Evaluation of the lecture method has consisted almost entirely of a comparison with the discussion method. Findings abstracted from sixteen research studies indicated that, with respect to the pupil's immediate mastery of factual information, there were no significant differences between the lecture method and discussion method. (413) The question of pupil retention of the material was seldom investigated. Two studies which dealt with this question found retention of material to be superior in groups taught by the discussion method (983,994) while one study found no difference. (986)

Proponents of discussion methods have claimed advantages in problem solving and application of knowledge. There was little evidence to substantiate these claims (413); however, there was some evidence that pupils in discussion groups did take on greater responsibility for learning. (993)

Evaluation of the project method (pupils accepted an assignment and were free to fulfill the requirements independently, with

help from the teacher when needed) yielded no significant results in terms of mastery of facts (413), although one study did report the pupils demonstrating superior skills in solving directly-related problems. (985)

When the recitation method (characterized by assignment, study, and report) was compared with other methods, there was little evidence to support this method or any of the others as a general teaching method. (413)

An examination of methods to teach critical thinking yielded positive results, in that pupils who had been taught the principles of logic and experimentation and their use showed greater gain in measures of critical thinking than the control group, with no impairment in mastery of course content. (988) In this case what merits further study is whether these pupils will transfer these skills beyond the paper and pencil test situation.

Research concerning the demonstration method yielded little. General statements were made to the effect that pupils learn by imitation and are capable of learning by observing demonstrations. (413) There was no research evidence that intellectual skills have been learned by this process.

Data in regard to the self-discovery method disclosed that students who received "no help" from the teacher developed the greatest interest in the problems; however, those students who received teacher assistance upon request were superior in applying the discovered rules

to new problems. (989)

An analysis of the results of research relating to the "self-selection" method, although limited to but one study, merits attention. In this method the teacher was to "guarantee that every classroom situation or its immediate surroundings would have tasks which were interesting in terms of intrinsic content and which would cover a range of difficulty as great as the variability" of the pupils. The data indicated that, on the whole, the children were sound in their judgments of their own abilities. Academic gains were also somewhat better than under the procedure maintained in previous years. (991)

Research reported in relation to the multi-method approach, in which the teacher utilized many methods and instructional media in one instructional period, disclosed that pupils demonstrated growth in reading skills, cognition and motor skills. (624,625,630,643,657,694, 696,904)

On the whole, the over-all data on teaching methods appears to indicate that to date no one teaching method may be designated as markedly superior to any other. (413)

Teacher's selection, specification, and evaluation of pupil goals. By and large, educators stated that when teachers select goals that are congruent with the needs of their pupils, specify these goals with clarity in terms of the pupils' terminal behaviors, and utilize these goals to construct their evaluative instruments, a climate

conducive to learning is developed. (373,404,405,406)

Goal selection. In the process of goal selection, research pointed out that when a teacher was provided with knowledge of the I.Q. range of the class she demonstrated a differentiation of operational cognitive goals for the pupils. The "low" pupils were assigned goals limited to knowledge, comprehension, and application; while the "average" or "high" pupils were assigned additional cognitive goals such as analysis, synthesis, and evaluation. (464) There was no significant evidence to support this type of goal allocation based upon the I.Q. range of a class. No one to date has demonstrated that children who obtain low scores on intelligence tests are incapable of analysis, synthesis, and evaluation and should be restricted to recall of knowledge, comprehension, and application.

Goal specification. It appears that the specification of goals with clarity assists in many endeavors. Therefore, it was not surprising to find that when teachers provided pupils with clear goals the pupils demonstrated increased academic achievement, work involvement, interest, and self-direction. (373,404,405,406)

When attention was focused upon the combination of the indirect mode with goal clarification, the research indicated a further increase in pupil knowledge, tool skills, and self-direction. When the direct mode was substituted, pupil dependence increased. (405,406)

The factor of pupil valence toward the goals established by

the teacher was found to be significant. Pupils with positive goal valances demonstrated increased achievement. (405,406) As would be expected, pupils with a negative goal valence, whether goal statements were clear or unclear, demonstrated negative results in terms of achievement, social-emotional adjustments, and attitudes toward school. (405,406) Within the scope of the studies reviewed, no data were available concerning how to alter pupil valence.

Evaluation of pupil goals. In terms of evaluation, teachers generally stated one pattern of cognitive goals for their pupils and tested for another pattern of cognitive goals. (464) It wasn't clear whether the cause of the inconsistency was in the invalidity of the tests used or in the teachers' own inconsistency.

Teacher's disciplinary actions. The data gathered in this area were extremely limited. Two studies found increased self-direction on the part of the pupils when the teacher's disciplinary actions were characterized by clarity and firmness. (421,440)

Teacher personality traits displayed in the classroom. Researchers were in agreement that since the teaching-learning process takes place in a social setting, the teacher's personality traits had a notable effect upon pupil outcomes. (424) The data in this area confirmed their statement that the personality characteristics of teachers have measurable effects on the intellectual, social, and

emotional growth of the pupils. (424)

Within the scope of the data gathered, when one reviewed the various characteristics explored by the numerous researchers, teacher traits were classified into the following groups:

Warm behaviors such as friendly, understanding, encouraging, and supportive

Businesslike behaviors such as responsible, systematic, orderly, well-planned, and work-oriented

Stimulating behaviors such as imaginative, vigorous, dynamic, and enthusiastic

Turbulent behaviors such as impulsive and highly variable

Fearful behaviors such as nervous, hesitant, and inconsistent

Critical behaviors such as disappointing and punitive

Those studies which focused upon warm teacher behaviors clearly indicated that pupils taught by warm personlities demonstrated increased achievement in such tool skills as vocabulary and arithmetic (984), work involvement and interests, increased creativity, greater self-direction, more positive social-emotional adjustment, and greater group cohesiveness. (411) Pupils taught by teachers who engaged in

critical, disapproving, and punitive acts tended to perform only the required tasks, produced products displaying little creativity, demonstrated great dependence upon the teacher, displayed negative social-emotional adjustment, and had little group cohesiveness. These pupils were critical, aggressive, and punitive in their actions toward each other. (374,375,439)

It was interesting to note that encouraging teacher behavior (teachers wrote comments believed by them to be "encouraging" on pupils' papers) promoted greater pupil effort and improvement in learning. (460,469,992)

One study reported nonsignificant differences in reading growth and problem-solving skills for pupils studied in relation to teacher warmth-friendliness, teacher verbal emphasis, and teacher acceptance of pupil autonomy. However, when a comparison was made to determine the degree of association obtained between teacher verbal emphasis and pupil-teacher rapport, it was found to be small and the significance of the relationship between pupil-teacher rapport and teacher warmth-friendliness was defined more clearly. (447,451)

Studies dealing with businesslike teacher behaviors disclosed that these traits promoted greater achievement, greater dependence, more positive social-emotional adjustment, and more positive attitudes toward schooling on the part of the pupils. (424) On the other hand, pupils taught by turbulent teachers whose behavior was characterized by impulsiveness and high variability demonstrated gains in achievement

and greater self-directive behaviors. (424) One study based on eight years of research was unique in that the researchers viewed the personalities of the pupils, as well as the personalities of the teachers. A type of teacher-pupil grouping which might be classified as pupil-teacher personality grouping emerged. This seems to offer significant possibilities in pre-service training. Determining the personality traits of pupils and teachers, and placing specific personality types of pupils with specific types of teachers produced increments in academic achievement, as well as increased social-effectiveness, self-direction, and more positive attitudes towards schooling. (424)

As an example, when homogeneous groups of striving pupils and conforming pupils were taught by the self-contolling teacher (orderly, well-planned, work-oriented), the pupils demonstrated the greatest total achievement. However, this was accompanied by little self-direction and great dependence on the teacher. When the same groups were taught by the turbulent teacher (impulsive, high variability), all children demonstrated increased achievement and increased self-direction. With the fearful teacher (nervous, hesitant, inconsistent), the pupils demonstrated low achievement, less positive social-emotional adjustment, and negative attitudes toward and interest in school. (424)

When the researchers placed homogeneous personality types of pupils with a combination of two teachers of different personalities, turbulent and self-controlling, all pupils demonstrated increased

achievement in knowledge and tool skills. (424)

Noteworthy at this point is the effect of teacher-pupil personality grouping upon teachers. When teachers were placed with children whose personality type differed greatly form their own, they tended to change their classroom behaviors to conform to the pupils' personalities. The exception was the fearful teacher who did not react to the children's personality traits at all. (424)

One significant finding proved to gain added significance when it was viewed in relation to data obtained from a correlational study. It was found that the teacher's emotional adjustment and stability affected his rapport with pupils: the greater his emotional stability, the greater was his social-effectiveness with pupils. (447,471) The correlational evidence stated that teachers who displayed warm behaviors and/or stimulating behaviors exhibited superior emotional adjustment and stability, while those who were businesslike scored low on emotional adjustment and stability. In addition it was found that teachers who participate in leisure time activities are likely to establish superior rapport with their pupils.

Additional data correlated with the factor of emotional stability merit consideration. The teacher's creative ability was related to his emotional stability in the classroom. Teachers who scored high in creative ability tended to demonstrate a greater display of positive and negative emotions related to their pupils in

the classroom. (391)

Teachers' high ratings of their own performance were correlated with personality traits such as warm, responsible, stimulating classroom behaviors, permissive child-centered educational viewpoints, and positive attitudes toward the entire school staff. On the other hand, supervisors' high ratings of teachers were positively correlated with the teachers' traditional, academic-centered viewpoints, and positive attitudes toward the school staff. (471)

Furthermore, the teachers' out-of-school activities and childhood and adolescent experiences were correlated with their classroom behaviors. (471) For example, teachers whose childhood and adolescent experience included playing school and taking care of young children scored high in terms of warm and stimulating classroom behaviors; teachers who participated in religious activities such as teaching Sunday school or working with the church in some capacity demonstrated a high degree of warm, friendly, understanding classroom behaviors. (471)

Teacher attitudes. Variable category III, in addition to teacher personality traits displayed in the classroom, also included teacher attitudes. It was assumed that the attitudes a teacher held toward pupils, teachers, administrators, and education would influence his classroom behaviors.

The data indicated that teacher attitudes had a direct effect upon pupil outcomes. It was found that pupils whose teachers

held positive attitudes toward the student body, the teachers, the administrators, and classroom practices, in general, demonstrated greater academic achievement, positive social-emotional adjustment and positive attitudes toward and interest in schooling. (402,404)

Numerous studies disclosed that teacher attitudes toward pupils, colleagues, administrators, and classroom practices were correlated with demographic traits such as age, sex, marital status, childhood and adolescent experiences, out-of-school activities and interests, college training, teaching experience, and ratings by self and supervisors. (471) For example, teachers under 30 held permissive, child-centered educational viewpoints, while older teachers were found to be traditional and academic-centered. Male teachers, in general, held more positive attitudes toward pupils. Married teachers held more permissive, child-centered viewpoints and were pupil-oriented. Teachers whose childhood and adolescent experiences involved supervising younger children were positive in their attitudes toward pupils. (471)

Teacher training within the past four years was correlated with positive attitudes toward pupils and the entire staff, as well as permissive, child-centered educational viewpoints. Attendance at a large university was correlated with permissive, child-centered viewpoints. (471)

In regard to teaching experience, the lower the grade level the more traditional and academic-centered were the teacher's viewpoints.

The teachers high self-ratings were positively correlated with their positive attitudes toward the entire staff and their permissive, child-centered viewpoints, while their supervisors' high ratings were correlated not only with positive attitudes towards pupils and staff, but with traditional, academic-centered educational viewpoints. (471,472)

In summary one might conclude that the data verify the common assumption that the teacher's attitudes have direct impact upon pupil outcomes, and that they are correlated with numerous other factors. What is lacking are data which would specify how attitudinal change may be promoted.

Teacher training, knowledge, skills and experiences. Contrary to what would be anticipated, variable category II, teacher training, knowledge, skills and experience had few direct effects upon the six pupil objectives. The only two factors within this category which directly affected pupil outcomes were the teacher's inservice training and the teacher's interest in subject matter. The teacher's training, knowledge, and skills obtained in inservice courses led to increased growth in terms of all of the six pupil outcomes (462); while the teacher's interest in subject matter positively affected the pupil's academic achievement in knowledge and tool skills. (424)

Pre-service training. Teacher training and knowledge

acquired during the preparatory years in college, whether in the general field of education and in specific content areas, had no significant effect upon the pupils' academic achievement. (424, 471) The number of years spent in teacher training in college had no effect upon teachers' personality traits displayed in the classroom. (424,471) The recency of college training did affect the teacher's personality traits: for example, teachers who had taken college courses within the past four years demonstrated warm, responsible, businesslike behaviors. (471,472) In addition, recency of training was correlated with positive attitudes toward pupils, teachers, administrators, and child-centered educational viewpoints. (471,472) Another factor influencing teacher attitudes and personality traits was the type of college the teacher attended. Attendance at a large university rather than a small college was correlated with permissive, child-centered educational viewpoints and stimulating classroom behavior. (471,472)

In-service training. In addition to promoting growth in terms of the six pupil outcomes, inservice training had a profound effect upon the teacher. It was found that when teachers received inservice training which emphasized a learner-centered climate or indirect influence, there was an increased use of cognitive processes, increased knowledge of subject matter, more positive attitudes toward pupils, and greater receptivity to curriculum

innovations on the part of the teachers. (462)

Knowledge and skills. With regard to the teacher's professional knowledge, measured in one case by the National Teacher Examination and in another by the Teacher Education Examination, the evidence found is subject to question. One researcher found that the teacher's professional knowledge had only a slight effect upon his classroom behavior, defined as his ability to solve teaching problems. (401,402) Another group of researchers found no significant relation between the teacher's scores on the Teacher Education Examination and any kind of growth on the part of the pupils. (424) However, this group claimed that had they included a sizeable number of teachers who had no professional training. The Teacher Education Examination might have shown a difference between the progress of pupils of such teachers and the progress of pupils taught by trained teachers. They stated "Our experiment did show that whatever effects the teacher's knowledge might have had were completely masked by the effects of the teacher's personality." (424)

Concerning teacher's skills the data were extremely limited. It was found that the teacher's high ideational fluency, as measured by a score on a test of divergent thinking, was positively correlated with the supervisor's ratings of the teacher. (437)

Experience, grade level and subject specialization. Although

the number of years of teaching experience had no direct effect upon pupil outcomes, it was correlated with the teacher's emotional adjustment and stability, his educational viewpoints and his personality traits. The data indicated that teachers with less than five years' experience were emotionally stable and permissive. Those who had more than five years' experience demonstrated warm, responsible, stimulating behavior, while those with ten years' experience demonstrated traditional, academic-centered educational viewpoints, rather than permissive, child-centered viewpoints. (471)

In regard to grade level, it was interesting to note when comparing elementary teachers and secondary teachers that elementary teachers demonstrated permissive, child-centered viewpoints while secondary teachers are traditional and academic-centered. Elementary teachers also demonstrated greater emotional adjustment and stability and participated in more leisure time and professional activities. (471)

Concerning subject specialization the data gathered did not indicate whether subject specialization on the part of the teacher at the elementary level did or did not promote pupils' academic achievement. The evidence correlated subject specialization with the teacher's mode of presentation, his personality traits, and his educational viewpoints. For example, science and math teachers used more direct modes, were more traditional in their educational viewpoints, and were more nervous and critical; while

teachers of the humanities used indirect modes, held child-centered viewpoints, and were warm and relaxed. (471,479,480) At this point, provided with correlations, one can only speculate whether individuals with specific attitudes and personality traits tend to select a specific area of specialization, or whether the act of specializing in a particular content area promotes or enhances certain attitudes and personality traits.

Teacher demographic characteristics. Variable category I, teacher demographic characteristics such as age, sex and marital status, proved to be least significant in that these traits had no demonstrated effect on the pupil objectives. The data consisted entirely of correlates derived from five studies, with the bulk from one study. The extent to which these group results may be applied to teachers in general or to any particular group of teachers, is a function of the similarity between the teachers studied and the group in question at any particular time.

In terms of the teacher's age, the data indicated that teachers under thirty demonstrated low verbal skills and permissive, child-centered educational viewpoints, while those between thirty and thirty-nine were warm, responsible and businesslike in the classroom. Teachers between forty and fifty manifested high stimulating behavior, but poor emotional adjustment. At fifty-five, teachers scored low in terms of warm, stimulating classroom behavior, and their emotional stability declined. (471,472)

Male teachers at both elementary and secondary levels were superior to female teachers in terms of emotional adjustment and stability, and held more positive attitudes toward pupils, but were less responsible than their female counterparts. Female teachers demonstrated greater verbal skills and participated in many more leisure time activities. (471,472)

It appeared that married teachers were superior in that they displayed greater emotional adjustment and stability, were more positive in their attitudes toward pupils, held more permissive and child-centered viewpoints, were involved in more leisure time activities and interests, and demonstrated high degrees of warm, responsible and stimulating classroom behaviors. (471,472)

Curriculum.

The data summarized herein represents the result of a cross-sectional analysis of the literature and materials of elementary school curriculum. Requiring clearly defined statements of operations and objectives has had the effect of reducing this phase of the research to a more feasible endeavor.

This parameter has taken its greatest toll on the analysis of textbooks. In many cases, the investigators were unable to identify operational definitions of the independent variables posited by the authors of the materials. Hence, the abstracted relations reflect the bases underlying the curricular materials, the sequential arrangements, and the executor of instruction.

Even though in the summary these are dealt with as mutually exclusive categories, in any given set of materials they often played a part without being separately specified.

Theoretical underpinnings of curriculum content and structure. Although researchers have paid considerable tribute to the need for projects and studies based on a theoretical framework of learning, the concern has not yet manifested an equivalent output. An inspection of many current textbook materials revealed that the method of presenting the information to the student rarely reflects the philosophical or psychological basis it is purported to uphold. There are however, several notable current trends which stand as exceptions.

Cognitive Theory. The most significant set of data in the area of theories of learning concerned the classroom use of cognitive structures. The findings indicated that a wide spread of pupil outcomes may be achieved by structuring content for analysis, association, classification, and other singular as well as combination processes. The teacher's structuring and pupil's use of cognitive functions has proved particularly effective as a means for acquiring and retaining factual knowledge, improving attitudes, broadening interests, and developing self-direction, as well as increasing cognitive functioning. The largest number of relations indicated this technique to be useful in acquiring tool skills. (521,531,548,

576,601,602,603,604,608,621,622,623,626,632,636,644,645,650,653,654,657,672,674,677,688,695,696,702,712,717,720,725,726,732,756,757,758,760,776,792,825,845,846,851,853,856,860,862,868,888,889,917,924,928,937,939).

The recent influx of information concerning children's styles and levels of cognitive functioning has provided curriculum specialists with a fruitful source for developing their programs. Although names, shapes, and colors changed, a large portion of the mathematics materials produced for classroom use and linked with cognition were based on the cuisenaire principle. Similarly in science, considerable emphasis seemed to be placed on the children's use of manipulative materials and the processing of information received from this involvement. "Science-A-Process Approach" from the American Association for the Advancement of Science (756), units from the Elementary Science Study (764-768) and the Science Curriculum Improvement Study (771-774), are examples of this stance.

The works of Covington, Crutchfield, and Davies in the "Productive Thinking Program" (860), Cunningham and Torrance in "Imagi/craft" (861), Myers and Torrance in the Ginn Series on Creativity (863-865), and Gordon's "Synectics" are examples of materials designed to develop children's cognitive ability through increased emphasis on ideational fluency and the use of metaphors.

As significant as these materials may be, the research clearly points to the teacher's open structure as a co-requisite

to the use of all of these materials, and the fact that the materials in and of themselves only facilitate the pupil's cognitive functioning. The teacher's role in using these materials is discussed more fully in the summary of teacher classroom behaviors.

Operant conditioning. Curricula which utilized the principles of operant conditioning suggested some significant conclusions.

In an exhaustive survey of the research dealing with the modes and rates of information input, Travers (952) cited these generalizations:

1. The efficiency of learning decreases as the amount of relevant information input increases; that is, those inputs which are pertinent to the central topic to be learned tend to overload the memory and thereby interfere with the rate of learning.

2. Relevant information input requiring the simultaneous use of more than one sensory modality interferes with learning.

3. As the amount of inputs not pertinent to the topic to be learned increases, the rate and extent of learning decrease.

Although considerable and rigorous research has been applied to studying the effects of giving the learner knowledge of results, general disagreement as to the specific nature of this feedback still exists. This problem appears to stem from the overgeneralization of results made from laboratory studies

involving subjects with demographic characteristics not indigenous to the group to which the material is subsequently applied. Data collected from adult learners or sub-human subjects, for example, could not necessarily be generalized to young children. (876)

The specific characteristics of feedback central to this controversy were:

1. Delay in supplying information concerning the correctness of response. The trend seems to accept that the greater the delay, the slower the learning; conversely, the more immediate the knowledge of results, the faster the learning. The latter statement is one based principally on laboratory studies.

2. Amount of information concerning the correctness of response. Data here shows favor for supplying as much information as possible while paying heed to the data concerning relevant informational input .

3. Frequency of feedback. Admitting to the existence of some unknown optimal frequency and timing, it is generally felt that the more frequent the feedback, the more efficient the learning.

Time and practice variables in curriculum implementation. Giving children additional time and repetition with subject-related activities has resulted in the anticipated increases in knowledge and tool skills. The circular relationship that practicing with processes will lead to increased ability with processes has been cited in several sources, particularly in science

curriculum projects. (521,545,585,614,615,629,642,645,678, 726,796,844,850,852,856,857,875,903,942)

The data quite specifically indicated that, regardless of the kinds of materials or methods used, increasing the time spent on a task yields more learning. No data relating time and plateaus of learning was uncovered.

Curricular sequence. The presentation of subject matter which has been arranged in a specified sequence, such as simple to complex or concrete to abstract, was reported to produce an increase in factual knowledge, too skills, and self-direction on the part of the pupils. (591,595,604,605,625,632,676,682, 683,701,716,731,757)

Statements identifying the specific stages of a logical or psychological sequence were rare and were often noted as areas which need more extensive research. Furthermore, when the sequential implications were discussed, they did not represent systematic research on the part of the curriculum developers.

Principle sources of instruction. Studies and projects which have utilized programmed instruction with machines, texts, computer-based instruction, films, T.V., tapes, and other such materials, pointed to a general increase in mastery of knowledge, tool skills, and cognition. (516,540,542,545,572,579,590,591, 598,601,602,604,608,615,628,640,647,660,664,665,670,688,691,

696,702,708,716,726,759,772,824,844,845,856,859,871,873,875, 876,882,887,888,895,903) However, in most of these cases one could not determine whether the increase in pupil outcomes was, in fact, due exclusively to the utilization of these materials and equipment.

The use of programmed instructional materials has provided a base upon which many of the principles of operant conditioning and reinforcement have been confirmed. The practice of breaking down information into small bits and presenting them to students along with knowledge of results has received widespread acceptance in the schools, as well as serving as a focus for much research. Of chief importance to the structure of programmed materials was the size of step. It seemed that the smaller the bits into which the information is broken, the more efficient was the learning. The trend toward the use of machines over programmed texts may be due to their increased production, availability, and novelty rather than their efficiency. (850,884,888,889)

The advent of the computer as an instructional device has provided the educational community with still another source of information on the principles of reinforcement and operant conditioning. In its relatively short lifetime, computer-assisted instruction (CAI) has become an effective mode of instruction. (580,581,582)

To date, CAI has undergone limited research. The extent to which this study has uncovered data, the following appeared to

be significant:

1. Used for drill and practice, CAI can provide repetition at a difficulty level commensurate with the competance of the individual student. Furthermore, CAI can respond, by contingent programming, at a more efficient rate that can other modes of operations. (873,874,876,878,880)

2. As a tutorial mode, CAI produces comparable achievement with higher efficiency, with regard to the saving of instructional times, than other instructional procedures. (872,942)

3. As a testing device, it has been stated that CAI can provide an optimun level of difficulty and coverage of test items. (No research has been found to support this.) (942,945)

In general, the use of audio-visual materials such as films, filmstrips, T.V. tapes, and records have proven to be an effective supplement to other modes of instruction or in combinations. There appeared to be no definitive research which upheld the efficacy of one mode over another.

It would seem that utilizing combinations of materials and methods would have the effect of a multi-method approach, in which the presentation of information would have a higher probability of coinciding with the learner's modal preference. Also, through the multi-method approach the time spent by individual children in direct exposure to the information might increase. (875,880,881,893,897,898) Research in the context of educational television (E.T.V.) suggested that more learning can occur when combinations of classroom and home activities such as programmed

instruction and tapes are used in conjunction with the television presentation. (Hayman and Johnson, 1963) (904)

A SYNTHESIZED SUMMARY OF ALL FINDINGS

Rather detailed summaries of findings were reported in the immediately preceding section. The next task for the project staff was to synthesize these findings into an integrated theoretical system comprised of a series of empirically-derived propositions.

Table 1 represents an attempt to bring together all the data. The variables listed along the top are the "independent" variables, and those listed along the side are the "dependent" variables. In each cell the number and type of relations between the two variables are reported. It will be noted that a very large portion of these were correlations rather than cause-and-effect relations.

While the content of these relations cannot be specified in Table 1, this type of summary serves two main purposes.[1] First, it reveals to the eye where research evidence has been concentrated and where it has been sparse or seemingly non-existent. Second, it leads to the next step which is the interrelation of broad categories rather than single variables. (See Table 1 on the following page.)

It may be noted in Table 1 that teacher variables have been related less frequently to pupil outcomes than to other teacher variables. Similarly no administrator variable is directly related to pupil outcomes. Instead, research seems to be concentrated in re-

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[1]For the specifics concerning the content of the relations, the reader is referred to the summaries in the preceding section and to Appendix A.

	PUPIL INPUTS									SCHOOL ORGANIZATION					ADMINISTRATOR							TEACHER							METHOD OF PRESENTING			CURRICULUM: MODE OF INSTRUCTION					CURRICULUM: UNDERLYING THEORY						
OUTCOMES	DEMOGRAPHIC CHARACTERISTICS	PHYSICAL CHARACTERISTICS	KNOWLEDGE	TOOL SKILLS	INTELLECTUAL FUNCTIONING	LEVEL OF INDEPENDENCE	ATTITUDES AND INTERESTS	SOCIAL EMOTIONAL ADJUSTMENT	GENERAL PLAN	GROUPING	SCHEDULE	TEACHER ASSIGNMENTS	ADDITIONAL PERSONNEL	DEMOGRAPHIC CHARACTERISTICS	TRAINING AND EXPERIENCE	PERSONALITY AND ATTITUDES	ABILITY	JUDGED EFFECTIVENESS	ROLES AND FUNCTIONS	SCHOOL CLIMATE	DEMOGRAPHIC CHARACTERISTICS	OUT-OF-SCHOOL ACTIVITIES	TRAINING AND EXPERIENCE	PERSONALITY AND ATTITUDES	INTELLECTUAL ABILITY	JUDGED EFFECTIVENESS	EVALUATIVE PRACTICES	TEACHER CENTERED	LEARNER CENTERED	LAISSEZ FAIRE	SEQUENCE	MATERIAL	AUDIO-VISUAL	PUPIL-PUPIL	SELF-INSTRUCTION	MULTI-MODE	REINFORCEMENT	COGNITIVE	MULTI-SENSORY	TIME	PRACTICE	COMMUNITY	PHYSICAL PLANT
PUPIL: KNOWLEDGE									3SE 21-6FE	85NE 1FNE 37-4FE	2SE	7SE 8FE	2FE								1FNE		1FNE	13FE		2FE		-7SE 2-4FE	1SE 9FE		7SE 10FE	21SE 6FE 2FNE	4-1FE	8SE 8FE	2SE	18FE	6FE	14SE 13FE	1SE -2FE	2SE 3-1FE	5SE 1FE		
PUPIL: TOOL SKILLS								2FE	3SE 8FNE 22-9FE	45SE 1FNE 78-8FE	2SE 1FE	7SE 5FE	3SE 3FE								1FNE		1FNE	14-4FE		2FE		1-4SE -4FE	15E 9FE 1FNE		9SE 13FE	10SE 9FE 1FNE	5FE 1FNE		9SE 1FE	45E 72FE 3FNE	7SE 4FE 1FNE	46SE 4BFE	4SE -6FE	6SE 18FE 3FNE	2SE 1FE		
PUPIL: COGNITIVE FUNCTIONING																					1FNE						1FC	-2SE -1FE 1FNE	5FE 1FNE		3SE	4SE 2FE		2SE 2FE	5SE	1SE 5FE	2FE	30SE 13FE	4FE	4FE 1FNE	2SE		
PUPIL: SELF-DIRECTION										3SE 9FE	3FE																	1-1SE -3FE	6FE	1FE	1FE	9SE 1FE		1SE 1FE	4SE	1SE 2FE	1FE 1FNE	3SE 2FE					
PUPIL: ATTITUDES AND INTERESTS							-2SE		6FE	1SE 4-4FE	5FE													1-1SE 6-1FE				-2SE 1-9FE	1SE 10FE 1FNE	1FE		1FNE						2SE					
PUPIL: SOCIAL EMOTIONAL ADJUSTMENT							1FE		2FE 4FNE	13SE 6FNE 15-4FE	1FE	2SE 2FE	2SE											7-1FE 1FNE				-1SE -14FE	1SE 7FE	1FE													
SCHOOL ORGANIZATION: GENERAL PLAN								2SE			3FE	2SE							6SE																								
SCHOOL ORGANIZATION: GROUPING											2FC								2SE																								
SCHOOL ORGANIZATION: SCHEDULE										2FC																																
SCHOOL ORGANIZATION: TEACHER ASSIGNMENTS										3SE 5FE			8SE 8FE						1SE																							
SCHOOL ORGANIZATION: ADDITIONAL PERSONNEL																																										2FC	
ADMINISTRATOR: DEMOGRAPHIC CHARACTERISTICS															1FC			2:0FC	9FC 8:0FC	5:0FC					3SC																3FC	
ADMINISTRATOR: TRAINING AND EXPERIENCE														1FC				1FC	-2SC 33-1FC 25:0FC	4:0FC																						2SC 11FC	
ADMINISTRATOR: PERSONALITY AND ATTITUDES																		5FC	29FC 3:0FC	3:0FC				6FC 2:0FC		2FC 1:0FC																1FC	
ADMINISTRATOR: ABILITY																			13FC 2:0FC							2FC																	
ADMINISTRATOR: JUDGED EFFECTIVENESS														2:0FC	1FC	5FC			17FC 5:0FC					6FC	2FC 2:0FC																	1FC 2:0FC	
ADMINISTRATOR: ROLES AND FUNCTIONS									2FE	4FE				9FC 8:0FC	-2SC 33-1FC 25:0FC	29FC 3:0FC	13FC 2:0FC	17FC 5:0FC	10SC	10SC																							
ADMINISTRATOR: SCHOOL CLIMATE														5:0FC	4:0FC	3:0FC																											
TEACHER: DEMOGRAPHIC CHARACTERISTICS																												37FC	3FC	3FC													
TEACHER: OUT-OF-SCHOOL ACTIVITIES																												19FC															
TEACHER: TRAINING AND EXPERIENCE													2SE 2FE															21FC 2:0FC			15FC 6FC												
TEACHER: PERSONALITY AND ATTITUDES										1FE		2SE		3SC	15E 1FE	6FC 2:0FC		6FC	10SE 5FE	13SE 6FE	37FC	9FC	21FC 2:0FC		1FE 7FE	16FC																	
TEACHER: INTELLECTUAL ABILITY																		2FC 2:0FC				3FC			7FC 3:0FC		1FC																
TEACHER: JUDGED EFFECTIVENESS																2FC 2:0FC	2FC			2SE	3FC				16FC	1FC																	
TEACHER: EVALUATIVE PRACTICES					1FC					15E 1FE		4SE																			1FE												
TEACHER: METHOD OF PRESENTING										5FE	2FE	6SE 2:2FE													21FC	1FE																	
SEQUENCE																																											
CURRICULUM: MODE: MATERIAL										3FE	1FE																																
CURRICULUM: MODE: AUDIO-VISUAL EQUIPMENT										3FE																																	
CURRICULUM: MODE: PUPIL-PUPIL																																											
CURRICULUM: MODE: SELF-INSTRUCTION																																											
CURRICULUM: MODE: MULTI-MODE												2SE																															
CURRICULUM: THEORY: REINFORCEMENT																																											
CURRICULUM: THEORY: COGNITIVE																																											
CURRICULUM: THEORY: MULTI-SENSORY																																											
TIME										2FE																																	
PRACTICE																																											
COMMUNITY														2FC	3FC	2SC 11FC	1FC		1FC 2:0FC																									
PHYSICAL PLANT																																											

LEGEND

FE = FORMED EFFECT
SE = STATED EFFECT
FC = FORMED CORRELATION
SC = STATED CORRELATION
FNE = FORMED NO EFFECT
SNE = STATED NO EFFECT

lating administrator variables to other administrator variables.

Another general finding is the amount of empty space which represents no research studies in some areas. For example, except for one correlation found between the intellectual functioning of children and the teacher's evaluative practives, the effect of pupil variables on educational practice appears not to have been studied to any significant degree. Admittedly, the current project and Table 1 represent a limited review of research related to school practice. One might safely posit, however, that if a wide sampling of studies yielded no data concerning such an effect, one of the most important variables, namely the effect of pupils on educational practice, may have been largely neglected.

Similarly, no studies were found concerning the effect of curricula on teachers, administrators, and school organization. Could this mean that curricular programs have little or no effect on the way schools are constructed and administered and how instruction is conducted?

It would seem that the two main factors, namely, what pupils bring with them and the nature of the curricula, should partially determine school organization, the means and methods of instruction, and should effect some changes in teacher and administrator variables. Yet these do not appear to have received much consideration in educational research and practice.

One of the consultants to the project re-emphasized Coleman's

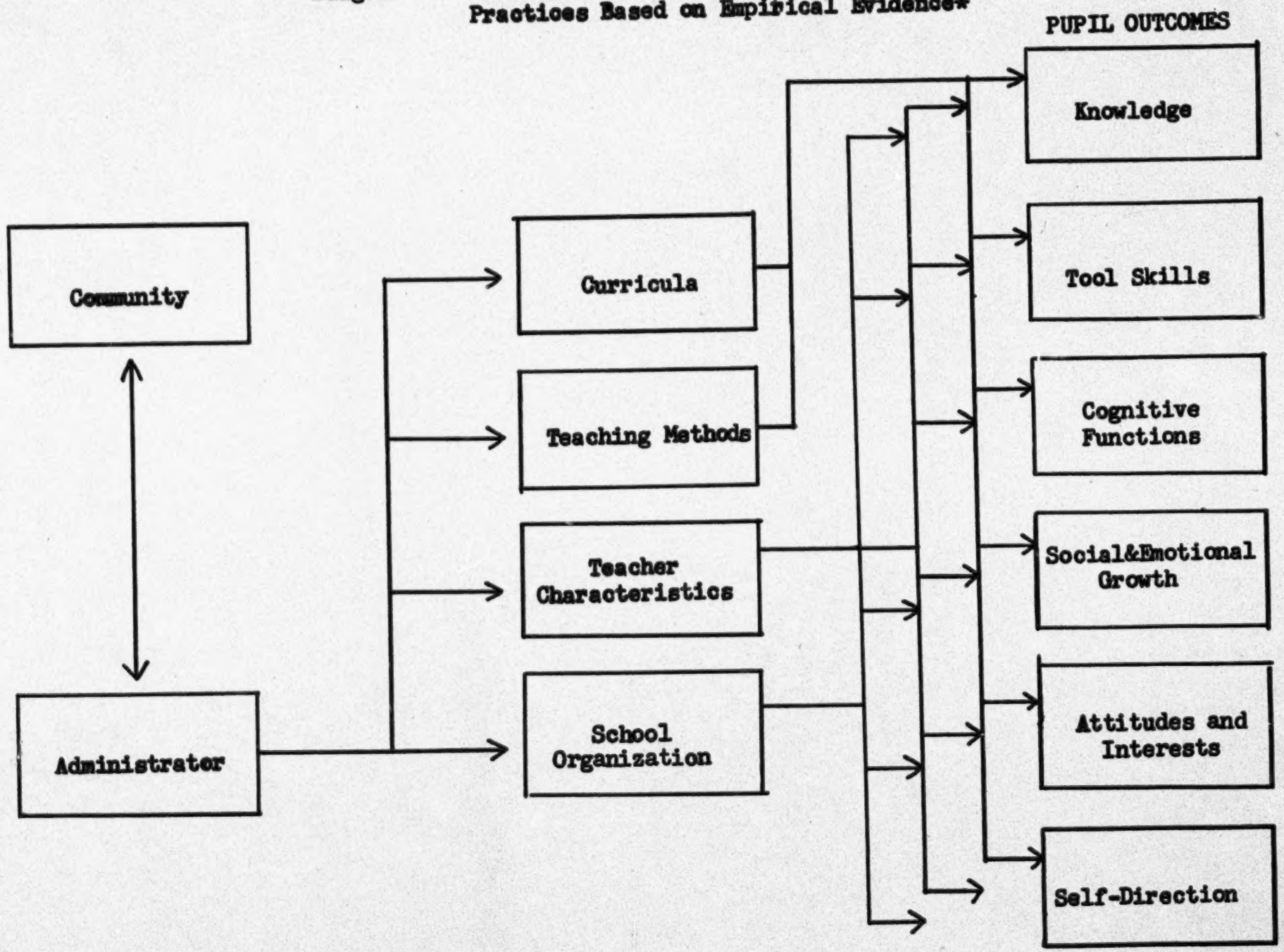
report that the pupil variables which initially existed when the pupils came to school accounted for 85 per cent of the variance in pupil outcomes after attending school. Only 15 per cent of the total variance could be accounted for by what took place in the school. In view of the gaps observable in Table 1, such a finding does not seem surprising.

A further attempt to abstract general statements of relations from the data is reflected in Diagram 2, the Taxonomic Model of Educational Practices Based on Empirical Evidence. This diagram specifies the broad categories which have emerged from the study and shows their relationship to the pupil outcomes. See page 80a.

It must be emphasized that this organization is purely a representation of the empirical evidence. It is quite incomplete and inadequate both for the purpose of inductive theory construction and for satisfying the philosophical and social values regarding education. The lack of interplay among the educational variables which affect pupil outcomes is very clear in Diagram 2. Each broad category, with the exception of administrator and community, affects pupil outcomes. However, no evidence is apparent concerning the combined effect of two or more categories when they act on the pupil.

Empirical evidence obtained in this project has been insufficient to warrent valid theory construction. In order for the theory to be developed to be as comprehensive as was intended in the project, the evidence should meet several criteria. First, it should

Diagram 2. Taxonomic Model of Educational Practices Based on Empirical Evidence*



*Arrows indicate direction of effect.

cover the domain. These findings, diffuse though they may be, represent too many gaps to meet this criterion. Second, it should be heuristic. Yet, the relations among the broad categories presented in Diagram 2 are quite sterile. Third, it should be reproducible with consistency. Even though no formal evaluations were made of the verifiability of results obtained in any study, it should be pointed out that in an uncomfortably large number of cases contradictory relations have been reported. Furthermore, many of the relations utilized were stated or claimed rather than found to exist.

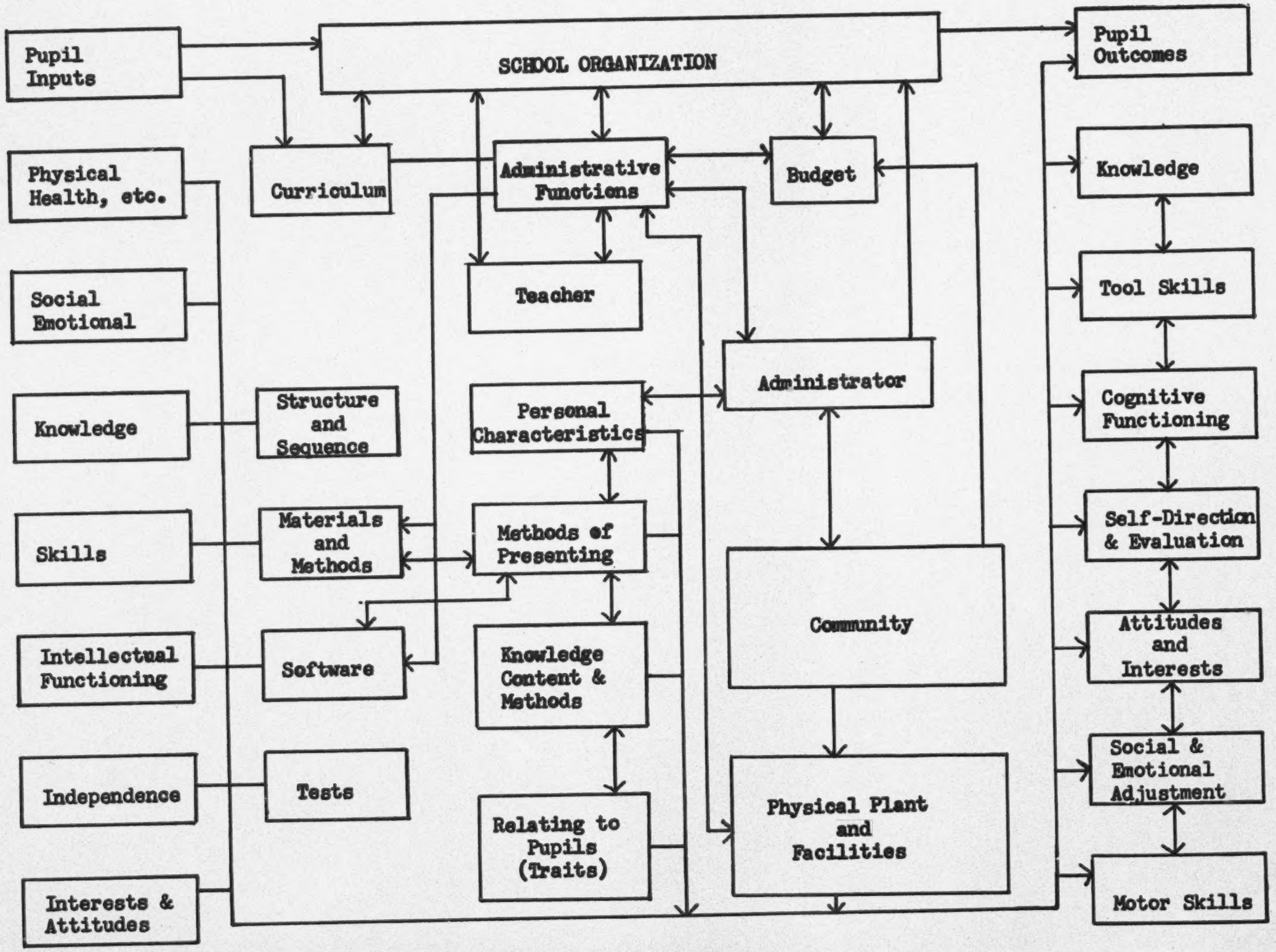
Clearly, the evidence collected in the project does not meet any of the criteria to enable the inductive construction of a theory from it. Therefore, no empirical propositions could be drawn from the data, especially none that would interrelate the variables of school practice and consider their combined interactive effect on pupil outcomes.

SHIFT FROM THE INDUCTIVE TO THE DEDUCTIVE APPROACH

In a sense, the project could have ended when it was concluded that the empirical inductive approach to developing a network of relations was impossible. It seemed to the project staff, however, that despite its limitations, the amount of data collected must have some theoretical implications. Although the evidence as summarized in the Taxonomic Model (Diagram 2) was sterile and nonheuristic, it was felt that a shift from the inductive to the deductive approach in theory building might produce a taxonomy, or taxonomies, which could still serve the theoretical objectives of the project. This shift meant that empirical propositions could not be stated inductively, but that some basis could be formulated which would lead to the statement of hypothetical propositions.

In this shift to the deductive approach to theorization, two alternative taxonomies were developed. The first was an expansion of the category system emerging from the data as reported in the Matrix (Table 1), and was called the Traditional Model of Educational Practice. This expansion involved nothing more than interrelating some of the empirically-obtained categories and sub-categories upon which a systems model was superimposed. The systems model helped bring in the pupil input variables as an additional category. (The traditional model is presented in Diagram 3 on the following page.)

Diagram 3. The Traditional Model of Educational Practice.

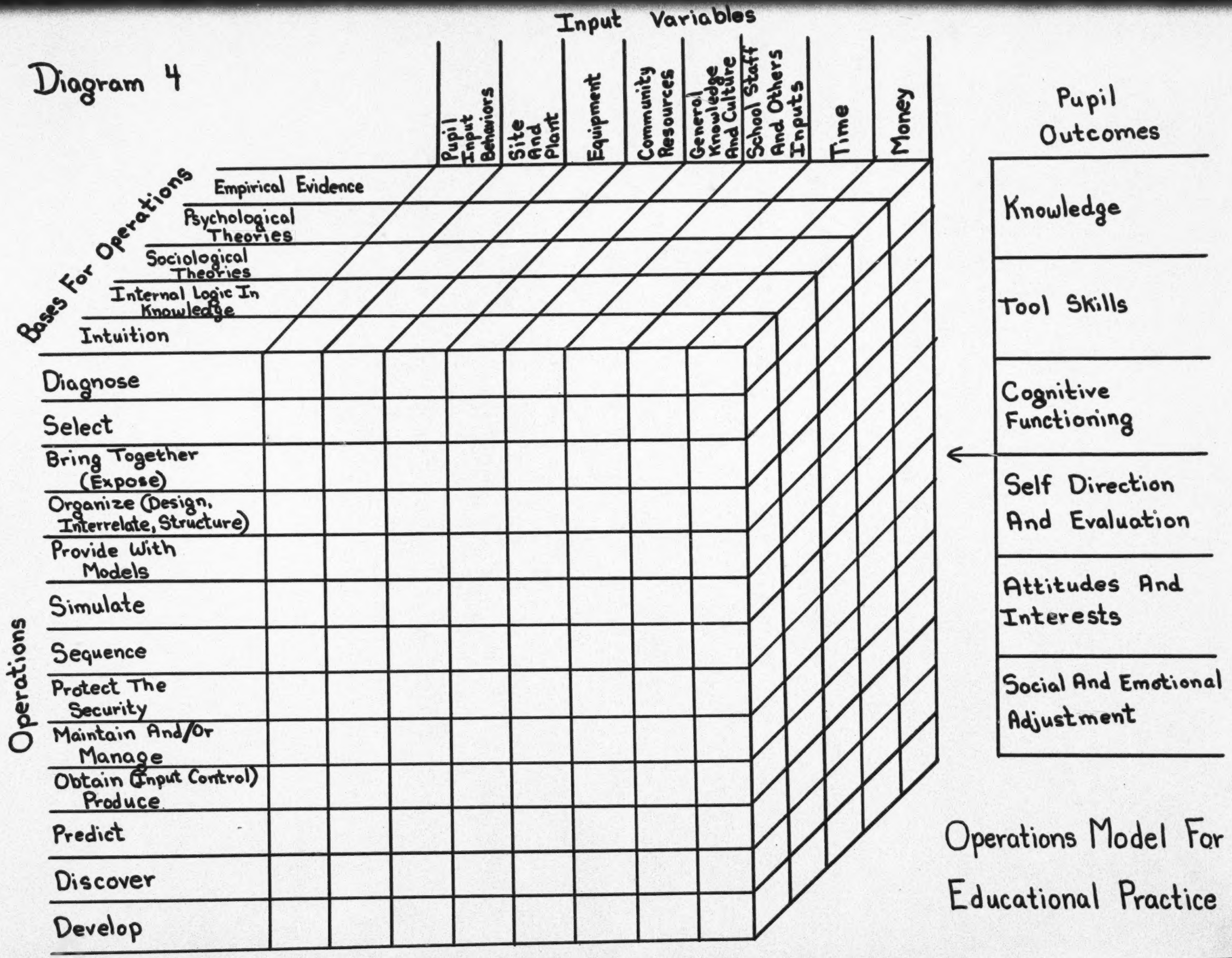


A second model was also built following the systems model, but went beyond the category system suggested by the empirical evidence. Diagram 4 presents what was eventually called the Operations Model for Educational Practice. (See the following page for Diagram 4.) Even though the operations model is presented as a cube, it is not meant to imply that meaningful relationships exist for every cell in the cube. It is only meant to point out the theoretical possibilities which might lead to their logical, and eventually empirical, determination. In a sense, it may be construed as a hypothetical periodic table, understanding that not every cell will yield meaningful relationships.

The project staff thought the operations model was preferable to the traditional model for the following reasons. First, shifting the category system from "educators" (teachers and administrators) to "operations" opened the door to considering a variety of factors as instructional sources. For example, computers, curricular materials, peers, a variety of professionals or para-professionals, environmental stimuli, or the pupil himself could conceivably perform some part of the instructional function. The operations model concentrated not only on who or what would perform the instruction, but also on what operations might affect pupil outcomes.

Second, the model seemed to point up the need for determining whether or not the operations listed were in fact being

Diagram 4



Operations Model For Educational Practice

effectively performed in the schools. For example, the data revealed that in practice adequate diagnosis as an operation seemed to be largely lacking. This second point is elaborated later in the report since it was discussed at great length at the work-conference.

Third, even if primitive, the operations model seemed better organized than the traditional model. It pointed out more effectively the interrelation of input variables, operations, and the bases for determining which operations should be performed with which inputs in order to lead to the outcomes.

Fourth, the specification of the bases for matching operations with inputs clearly brought out that propositions need not be based on empirical evidence alone. Other sources of knowledge, such as existing theories in other disciplines, and intuition, could provide some bases in the formulation of hypothetical propositions.

Despite the admitted preference of the project staff for the operations model, both models were brought to the large group of consultants for review and consideration.

It was at this stage of development that the consultants to the project were called together to a work-conference. The conference task was described as (a) developing an alternative model or expanding on either of the two presented, (b) interrelating the variables of educational practice, and (c) formulating hypothetical

propositions about the optimum school variables which will lead to the desired outcomes in specific terms.

The consultants in general agreed with the project staff that the operations model was preferable to the traditional model. However, several shortcomings of the model emerged in the ensuing discussion. First, and interestingly, the consultants did not drop the category system of the traditional model completely. Much of the discussion centered around the teacher and her role as executor of the operations. The group manifested a general apprehension and unstated reluctance to divorce the operations from the teacher as their performer.

It is possible that a different group of theorizers might not have had this predisposition, and that the particular group involved represented a frame of reference where the teacher played a focal part. It is also possible, however, that a theoretical formulation must have room to consider the performers of the operations.

The latter possibility would imply a need to expand the proposed operations model to include a specification of who and/or what would be best suited to perform the operations. Hints at this need may be found in the discussions that took place at the work-conference. There was considerable deliberation about the use of computers as instructional and diagnostic aids. Also, manipulation of environmental variables was named as a means to expose children to varying instructional stimuli which might bring about self-

direction. Self-direction further implied that pupils could instruct themselves or each other. In actuality, the model was expanded later to include a fourth dimension, the performers of operations.

While some of the deliberations at the conference seemed to constitute attempts to circumvent the shortcomings of the model, others involved major points derived directly from the model. Since these points later contributed to the development of the hypothetical propositions, they are listed here in some detail.

1. Pupils come to school with initial differences in potential ability and in past experience. The accurate and precise determination of the type and amount of ability and experience unique to each individual is an essential operation to be performed by the school.

2. From an operational viewpoint, achieving pupil outcomes may best be defined as producing increments in pupil behaviors starting with their initial baseline and moving toward the desired outcomes. The size and direction of these increments must be determined for each individual idiographically rather than nomothetically at regular intervals. This assessment of the process of education is an important function of the school.

3. In order to produce the desired increments, a number of operations need to be performed with both pupil inputs and other inputs presented in the operations model. The effectiveness of the operations in producing the increments must be determined empirically

by the schools.

4. If there are critical developmental periods after which pupil inputs can, at best, be altered by the expenditure of a disproportionately large amount of time and effort, the school may need to concentrate on producing prerequisite behaviors before the critical period is ended. Hence, the critical periods suggested in the psychological literature need to be tested in the schools.

5. The interaction of pupil input variables with one another and with other variables, such as curricular methods and materials, may produce differential increments for different individuals. For instance, the nature of the interaction between the affective and cognitive domains needs full specification. Not only should schools be involved in such a specification, but they should conduct continuing evaluation of changes in these interactions. When a school is not equipped to perform this function, it should receive assistance from outside agencies and other professions.

6. The school needs to structure and control the environment and then permit the pupil to make his own selections from alternatives presented to him. This was seen as having some desirable consequences. First, it might help attain self-direction as a pupil outcome. Second, where the bases are unavailable for matching pupil inputs with other inputs children's behavior might provide empirical cues which can then be systematically tested. Third, the combination of external structuring of the environment and the child's

internal structuring which leads him to make his selections was seen as a strong motivating factor in learning. Several types of reinforcement seemed to be operating in this combination. These included external reinforcement typical of operant conditioning, social reinforcement related to the achievement of socially expected behaviors, and internal reinforcement which results from ability to manipulate the environment and from gaining the knowledge sought.

7. Hierarchies may exist in (a) the desirability of outcomes, (b) the relative importance of the input variables, and (c) the relative importance of the operations. Hierarchies that can be posited only hypothetically now, must be tested empirically through research.

The last point given above seemed to be relevant to deriving the optimum variables which might lead to the desired pupil outcomes. However, when the question of optimums was raised, the lack of empirical bases for the determination of these optimums weighted rather heavily. Obviously, a theory cannot be any more clear, specific, and precise than the statements supplied by the empirical evidence on which the theory is based. The inadequacy of the empirical evidence obtained in this study has already been discussed. Consequently, it became clear that the probabilities to be attached to the educational variables specifying their likelihood to produce desired outcomes could not be determined from empirical data.

The question of logical probability versus empirical probability merits some consideration here. The prediction, "the probability of rain tomorrow is .30," cannot be empirically verified, but is based on logical probability. For, it will either rain tomorrow, or it will not. Hence, the empirical probability of rain tomorrow is either one or zero. Yet the prediction of 30 per cent probability of rain is based on the relative frequency with which some factors observed in the past have been associated with the occurence of rain. Before meteorology was so well developed as it is currently, (and there is still room for improvement as any unfortunate believer in the weatherman knows) the predictions were doubtless based on broad correlative associations rather than precise evidence of cause-and-effect. Consequently, they lacked accuracy in approximating the necessary logical probabilities.

The analogy between meteorological and educational forecast is clear. At this stage of theoretical development the predictions made by the hypothetical propositions to be stated will necessarily reflect logical probabilities. These in turn will be based on crude evidence, theories in other disciplines, personal experiences of the participants in theorizing, and the intuition of forward-looking educators.

THE FINAL THEORY AND TWO HYPOTHETICAL PROPOSITIONS DERIVED FROM IT

After the general conference ended, the task was to resynthesize all the points suggested at the conference. The final theory and the propositions derived from it are described below. Effort is made in the subsequent narrative to give due credit to individuals of groups contributing to specific formulations. However, the principal investigator must assume responsibility for interpreting these contributions.

Assumptions underlying the final theory.

Seven assumptions underlie all of the following theoretical and hypothetical formulations:

1. The propositions derived from the theory must not contradict available data even though these were found to be inadequate.
2. Education is broadly defined as modifying behavior, and need not be limited to school alone.
3. Behavior can be modified in the schools.
4. Aspects of behavior to be modified by schools are included in the six categories

of pupil outcomes that were employed in this project.

5. Individual differences exist among children both with respect to the status at which they initially come to school, and with respect to the rate and style with which their behaviors can be modified in the school.

6. Any system which is to modify behavior must, itself, be continually modifiable.

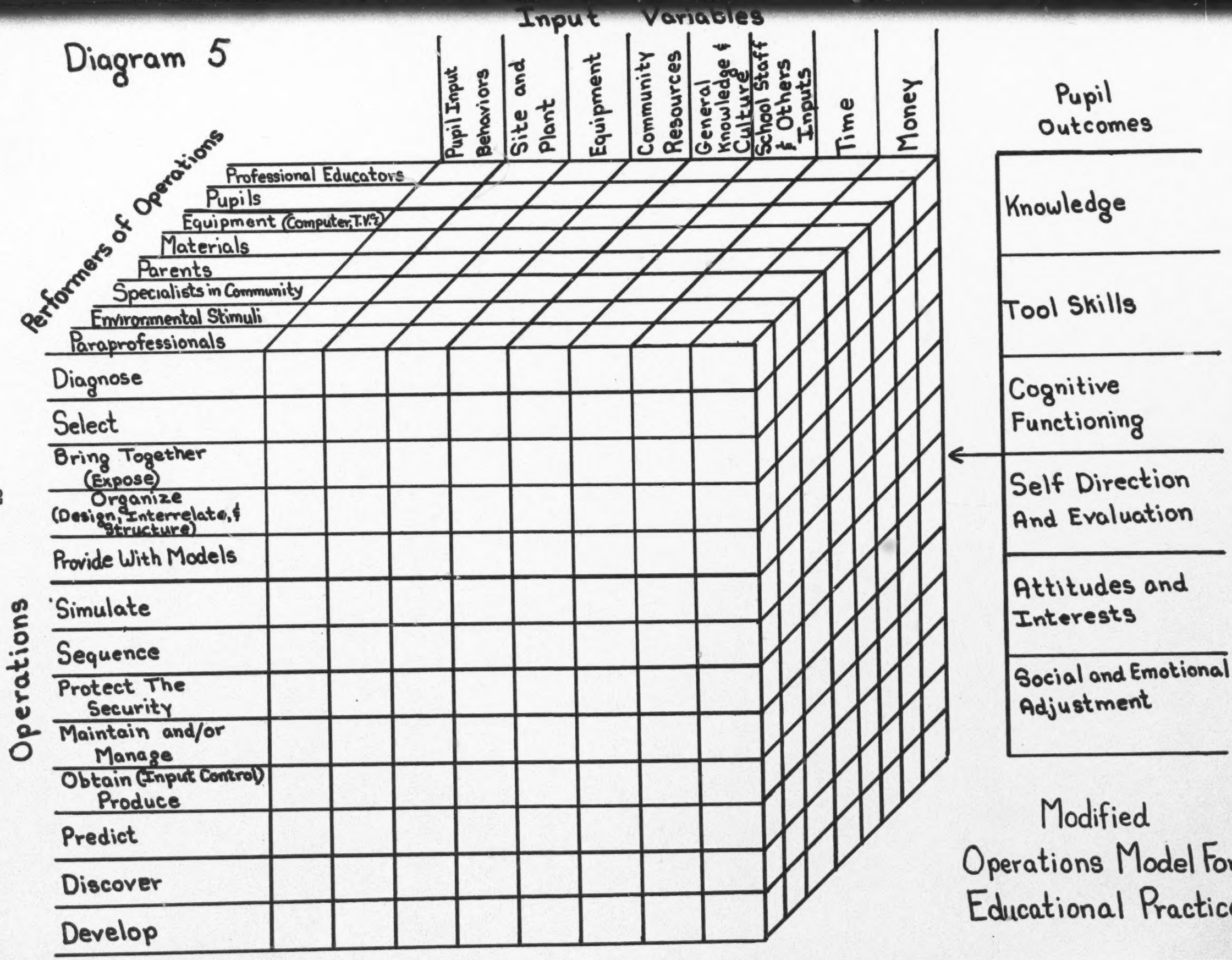
7. Learning can take place only after there is exposure to what is to be learned.

Description of the final theory.

The final theory resembled largely the operations model presented earlier. This early three-dimensional formulation was modified to include a fourth one, with the performers of the operations constituting the fourth dimension. Diagram 5 represents the final four-dimensional theory. Since a four-dimensional figure cannot be drawn on paper, one dimension is placed outside of the cube, but should be construed to be related with each of the other three dimensions. (See the following page for the Modified Operations Model for Educational Practice, Diagram 5.)

According to the theory, changes which are produced in pupils' initial behaviors and which correspond to the desired

Diagram 5



Modified Operations Model For Educational Practice

outcomes, become input variables for the next educational operation, thus creating a feed-back loop.

Theoretically, each cell of the cube presented in Diagram 5 represents four coordinates: (a) an input variable with which (b) an operation is performed by (c) a performer (d) on the basis of a theory, empirical evidence, logic, or intuition. The following functional relation is theorized between the total cube and the desired pupil outcomes: as the number of cells involved increases, the probability of achieving the desired outcomes also increases. In other words, the pupil outcomes are a direct function of the extent to which variables in educational practice are integrated.

The theory serves several purposes. It helps identify variables whose educational effects can be systematically tested in the field. To the extent it systematically described educational practice and its functional relation to educational outcomes, it explains the causative factors in educational achievement. The functional relation between educational practice and outcomes also serves a predictive function insofar as hypothetical propositions are derived from it giving specific predications. It is both a comprehensive theory and a heuristic one. It deals with a large number of educational variables rather parsimoniously and generates many testable hypotheses. Since it is also accompanied by a glossary with operational definitions, it seems to meet most of the criteria for a useful theory. There is nothing final about this theory,

however. In fact, a great deal of reformulation may be anticipated resulting from its empirical test.

Two somewhat overlapping but comprehensive propositions emanated from the theory. These comprise several more specific propositions which are discussed later in the report. The two propositions overlap in the specification of the optimum means of achieving educational objectives. The difference between them lies in their proposed hierarchies of outcomes.

A recommended hierarchy in the outcome category reflects a value system, .social or educational , which does not depend on scientific evidence, and which is not testable. However, the hierarchy in the educational practice variables must first be determined on the basis of the theory; next it must be tested empirically. A tentative position is supported, for purposes of this project, that both hierarchies of outcome categories which were proposed in the work-conference may be served equally effectively by the same general factors in educational practice. Hence, the subsequent presentation describes first the two proposed hierarchies and next the specific set of hypothetical propositions posited to best lead to either of the two hierarchies.

First suggested hierarchy of outcomes.

This hierarchy of outcomes was proposed mainly by Dr. N. Fattu as part of the position paper he presented at the work-conference. The hierarchical scheme is given in Diagram 6. (See the

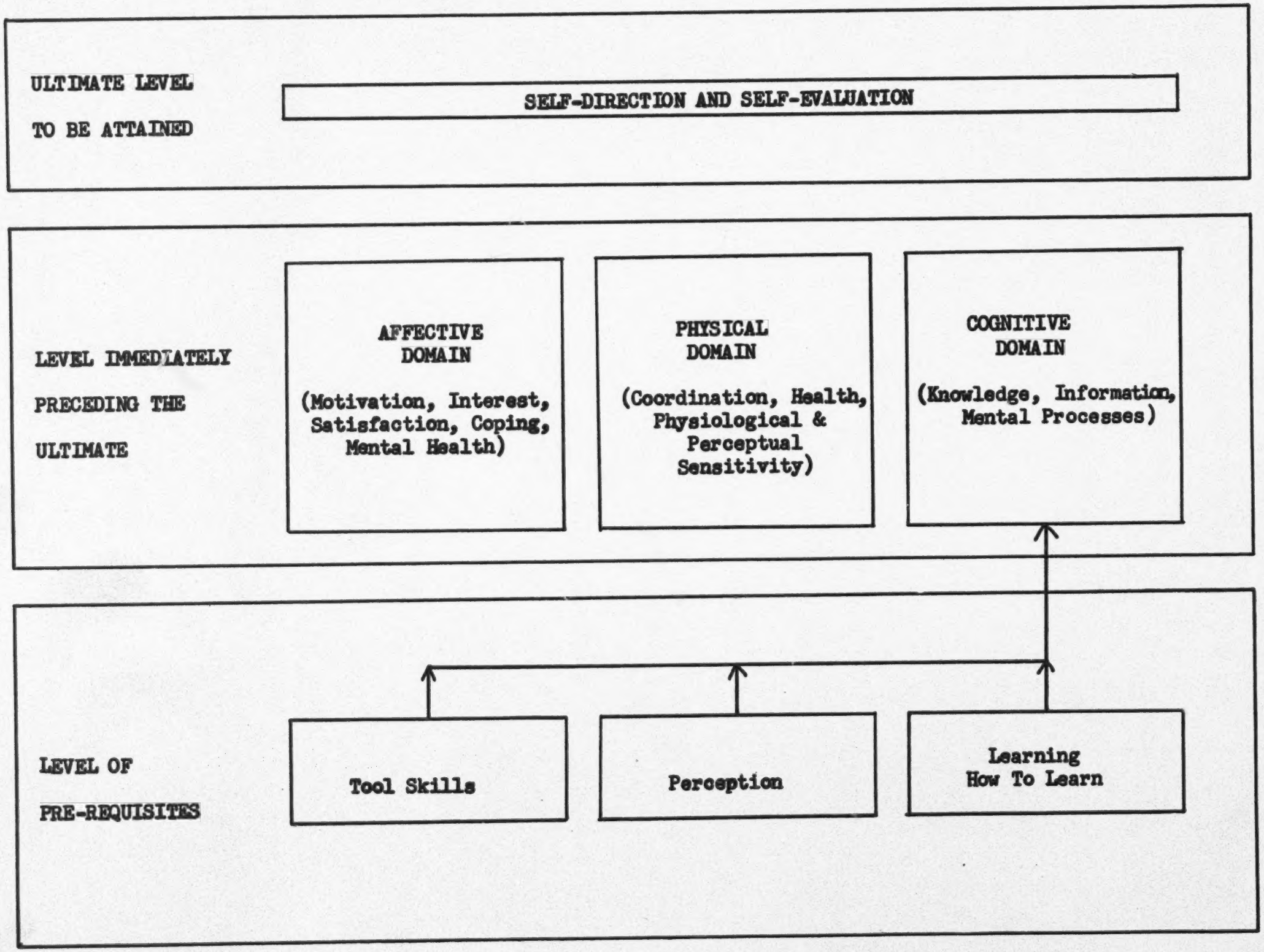
following page for Diagram 6, A Hierarchy of Outcomes Suggested by N. Fattu.)

Self-direction and self-evaluation were presented as the ultimate goals of education. Immediately under this category three categories of pupil outcomes were proposed: cognitive, affective, and physical. The relationship between the three domains, however, and the ultimate objective of self-direction were not specified.

Initially, three dimensions corresponding to Bloom's taxonomy were distinguished for the cognitive domain: knowledge, comprehension, and application. It was noted that this meaning of "cognitive" differed somewhat from the meaning assigned to it throughout this project. This difference seemed to emanate from the contrast between cognitive domain and cognitive functioning. Cognitive functioning in this project was defined by a number of mental processes manifest in the pupil's behavior. These processes which could include recall, recognition, and retention, had no referents in knowledge content. The elments of the cognitive domain (knowledge, comprehension, and application) seem to include both some mental processes and their knowledge content referents. This dichotomy was represented then by breaking the cognitive domain into two categories: that of knowledge including processes of recall, recognition, and retention which need to be content-bound; and that of mental processes which need not be content- and knowledge bound.

The third level in Dr. Fattu's hierarchy was labeled

Diagram 6. A Hierarchy of Outcomes Suggested by N. Fattu



prerequisites to knowledge. This comprised tool-skills, perception, and learning how to learn. All of these were stated to lead to the cognitive domain. "Learning how to learn" also seemed to be a prerequisite to self-direction and self-evaluation.

No prerequisites to the affective and physical domains were specified. From one point of view, the affective and physical domains could be, and have been, considered prerequisites to learning. On the other hand, that learning takes place in these domains is also well-established. Many studies have reported changes in attitudes and interests as a result of exposure and learning. Certainly the learning of self-concepts, of socially and emotionally adjustive mechanisms, of deriving satisfaction from a multitude of events, has not been studied adequately, at least not in the schools. In the physical domain, the current research activity to determine the possible dietary causes of cognitive functioning has not yet produced evidence that can be utilized in the schools. These limitations in empirical evidence are relevant not only to Dr. Fattu's formulation but to the affective and physical outcome categories in general.

Second suggested hierarchy of outcomes.

Two groups, independently of each other, suggested placing primary emphasis on cognitive outcomes. Two members of the project staff, Mrs. M. Gerhard and Mrs. A. Stasiewski composed the first group. Some of the participants who were charged with formulating

a proposition composed the second group. They were Dr. M. Hughes, Miss M. Martus, M. W. McCoy, Dr. R. Travers, and Dr. N. Wallen. Since the second group's formulation was hypothetically limited to a population of average four-year-olds with mixed backgrounds in a reading program, some of the specifications were unique to this situation. However, a sufficient number seemed generally applicable. For example, some cognitive pupil behaviors listed were discriminating objects and situations, labeling, recalling, narrating, and presenting an organizational schema. The latter, concepts of time, relations, cause-and-effect, relating, giving analogies, naming similarities and differences, asking questions, grouping and classifying, inferring, and decentering. The cognitive behaviors referred to by the members of the project staff were the same ones as those described earlier in the report. These included such processes as analysis, synthesis, divergent production, induction, deduction, and others.

Neither group specified clearly the relation of the cognitive category to the other categories. However, the hierarchical relation among them is derived here by extension of what was formulated by both groups. It seems that cognitive functions may be learned; that is, behaviors representing the processes may be changed, or new ones may be produced as a result of educational practices. They may, however, also facilitate learning in all other areas. For example, a child who utilizes

analysis in approaching problems of social adjustment, may be more likely to learn the adaptive behaviors than one who is not equipped with the same cognitive tool. Emphasis given to the cognitive area may imply almost equal emphasis being given to all other categories. Conversely, to the extent that the other categories contribute to better cognitive functioning in children, they may become the prerequisites for the cognitive category. This type of feedback also corresponds to that specified earlier in the final theory.

Predicted optimum educational practice.

The nucleus of the proposed optimum means of achieving the desired outcomes for all individuals may be described by one word: variety. The general prediction is that the optimum in educational practice is approached more closely as:

1. The variety of input variables utilized is increased.
2. The operations performed are varied.
3. An increased variety of performers are available and utilized for different aspects of the operation.
4. Alternative bases for operations are considered in combinations.

The proposed design, which follows, revolves around the elaboration of the points above, and their integrated functional

relationship with the pupil outcomes.

Increasing the variety of input variables to be utilized. Several categories of input variables were named in the theoretical presentation. One of these, the pupil inputs, consists of the experiences, personality, characteristics, attitudes, abilities, and information which the child brings with him when he comes to school. Increasing the variety of input variables utilized means that any given operation should be performed with as many input variables as possible.

For example, pupil's personality characteristics, attitudes, and interests, as well as their cognitive abilities and styles, should be considered when pupils are matched with the performers of instruction and with cultural and environmental inputs. If the child is usually hyper-active and interested in everything, cognitive activities should be structured for him which can be facilitated rather than hindered by these physical and affective characteristics. He is not likely to learn as much by sitting with a computer for long periods of time as from exposure to physical and environmental stimuli which have been carefully structured to perform instruction. He may need short but frequent periods of rest in an environment controlled in color, lighting, temperature, and furnishings.

Another child, who, in contrast to the first, is slow in his movements, concentrating in his efforts, and who has

well-defined areas of interest, may benefit from instruction provided by a machine, or a teacher, and/or by materials concerning his area of interest. He may function best in an environment which has activity-producing bright colors. He may not need long periods of rest. With him, rest may be achieved by a short period of high level physical activity.

Individual differences in cognitive style deserve similar consideration. For example, pupils who are characteristically analytic in their approach to problem solving would need materials to produce and strengthen other approaches.

The above examples point out how all variables need to be interrelated and varied in order to match with each other. Variation in the environment is as important as increasing the number of pupil inputs treated.

Variations in operations to be performed. Although the "operations" dimension of the theory is far from being exhaustive, its composition would probably be consided quite novel by many schools. It deviates from the traditional concept that instructing the pupils and running the school smoothly are the major functions of a school. Although some progressive schools have undertaken curriculum modification and development, and others have administered organizational changes, various operations performed in the schools have generally not been subjected to scrutiny.

The possible existence of a hierarchy among the operations to be performed was discussed earlier. During the course of the work-conference, it was unanimously agreed that diagnosis is used broadly to include the assessment of pupils in the traditional sense and the assessment of other input variables such as curricula, environmental stimuli, time, and money, as well as the effects they produce in combinations.

Without adequate diagnosis, there seems to be no way to determine what operations need to be performed with what input variables. Without adequate diagnosis, most attempts to build new curricula or rearrange old ones must end in futility, since no systematic evidence can be discovered either about their appropriateness to any individual or group or about their affecting any change in the pupil's initial behaviors.

Types of diagnosis needed include the assessment of:

1. each pupil's initial level of cognitive, affective, and physical development
2. increments produced in the pupil's input behaviors which correspond to the desired outcomes
3. the other input variables (content to be learned and time available) and their suitability to produce the desired increments
4. the role of the performers in producing the increments of behavioral change

5. the necessity for performing different operations in achieving the desired increments

6. the logical relevance of the bases utilized in educational practice to the outcomes desired.

All of the preceding must be continually assessed with the reliability and validity to allow necessary changes and modifications needed in the total system. Since the current diagnostic practices in education have little, if any,resemblance to what is described above, no polemic is needed concerning the changes in the current system. It should suffice to point out that any school or agency which undertakes to develop and reconstruct this operation to include points (1) through (6) would be committing itself to a very demanding but absolutely essential task.

Assuming diagnosis may be developed in a manner congruent with the above designation, predictions concerning other operations and their effects may be derived from the theory. One can predict generally that for educational practice to have maximum effect on outcomes, as many operations as can be identified must be performed simultaneously in the schools. Organizing variables structurally to provide pupils with models of behavior, matching input variables with one another (such as amount of available time with type of knowledge to be presented), exposing pupils to a variety of input variables and performers, guiding them to be responsible for their own selections and decisions, sequencing

experiences for pupils, obtaining or producing new input variables are some of the many operations which a school must perform. To the extent that these operations may all be associated with "instruction," the achievement of the outcomes will increase as the number of operations being simultaneously performed increases.

A third level of operations includes management; protection and maintenance; information storage, retrieval, and dissemination; which are facilitators of the other two levels. As these operations are rendered more efficient by applying modern technological developments, the operations in the other two levels may be performed more effectively. For example, diagnosis and matching of input variables may gain efficacy by the use of computers in storing and retrieving the relevant information needed.

Different performers for different aspects of the operation. A number of performers were listed in the final theory (See Diagram 5 on page 91a). This list differs from the traditional list of administrators, teachers, and professionals who perform "special services." It includes pupils, content specialists from the community, parents, para-professionals, computers and other equipment, materials, and stimuli in the physical environment, all all as performers of operations. The theory helps predict that the outcomes will be achieved best if a variety of performers assume responsibility for different aspects of a given operation. Using matching of input variables may help elucidate this prediction.

Insofar as the teacher determines which pupils will work with which curricular materials, the teacher performs the matching of the two. It is also possible for the pupil to perform this matching by selecting the material he thinks he needs from among a structured set of materials. In this instance, the teacher will have performed one aspect of the operation, the pupil another; the teacher will have matched the pupil(s) with a set of alternatives, and the pupil will have matched his specific needs of that moment with the material that will satisfy them.

Many such examples can be sketched. The possible usefulness of content specialists in the community sharing the operation of exposing pupils to available information, the para-professional's tutorial assistance in clarifying some points to pupils, the parents' role in diagnosing and exposing the child to instructional environments, are all instances of utilizing as many performers as possible in conducting an operation.

In all examples, the important thing to recognize is that each performer of these functions can only execute a part of the total operation needed. Hence, the prediction is based on the logical extension that their aggregate has the highest probability of performing the operation in its entirety. This, in turn, is predicted to achieve the greatest number of desired changes in behaviors.

Alternative bases as determinants of the operations. Four bases for the operations with the inputs were listed in Diagram 4: (1) empirical evidence, (2) existing theories in other disciplines, (3) the internal logic of the discipline, and (4) intuition. Although any one of the four could provide a justifiable basis for an educational operation, the strongest basis is empirical evidence, the weakest is intuition. In all instances, combinations of two or more of these four bases are likely to be much sounder than any one alone because the combination implies greater consistency. Hence, it is predicted that if combinations of bases for educational practice are utilized, the probability of the practice being the optimum one will be increased. This, in turn, will increase the probability of achieving the desired outcomes.

CONSPECTUS AND IMPLICATIONS FOR SCHOOLS

Early in the project, concerted effort was made to inductively develop a comprehensive theory of educational practice based on empirical data. The data were found to be inadequate for such inductive development, hence the method of approach was shifted from inductive to deductive. The deductive method, consistent with the empirical findings though not based on them, resulted in a general theory of educational practice.

The theory serves to explain the functional relationship between interrelated dimensions of educational practices, on the one hand, and desired pupil behaviors as educational outcomes, on the other. It is accompanied by a glossary of operationally defined terms (Appendix B) and the set of assumptions listed earlier.

The theory also serves a predictive function. Hypothetical propositions derived from it are attempts to predict the optimum practices which have a high probability of producing the desired outcomes. These are stated as hypotheses that can be tested empirically in the field.

Specification of ways to set up a school was not a purpose of the project; however, the theorized interrelations among the variables of educational practice and the hypothetical propositions can certainly furnish schools with useful guidelines. In describing the predictions concerning what kinds of practices

may best achieve the desired outcomes, effort was made to give examples which are feasible to implement in a school; however, this is a theoretical (and, perhaps, ideal) formulation which was not meant for any given school. It includes major deviations from the ways schools are currently constructed, organized and administered. Only a very progressive school system, ready to start an elementary school without any preconceived educational traditions, would be capable of testing a major portion of the theory at once. It is more likely that schools generally will adapt some aspects of this theorized practice, but will have to postpone others due to local limitations.

Implementation of the proposed practices would differ from school to school since each school would have a different set of initial substrate circumstances. The process of specifying the application of the theory in any given school may involve several steps. The status of the school must first be assessed in relation to the practices to be applied. Second, a planning period and a tooling-in period would be required during which time the school would prepare for implementation Some schools do not have behaviorally-stated educational objectives. These schools would need time to incorporate the objectives given in this study into their system. A school may need to establish cooperative relations with outside agencies that can assist in performing some of the required operations, such as diagnosis.

A new school may need to be built designed to fit the desired program. Retraining of some personnel and the recruitment of others may be needed in order to perform the designated operations in the prescribed manner.

Third, the school must develop a mechanism through which its practice can be continually evaluated and modifified. This necessity is derived directly from the sixth assumption underlying the theory which is that any system which is to modify behavior must, itself, be continually modifiable.

It is certainly hoped that these theoretical formulations will be tested empirically, for only upon such testing can the true scientific value of the theory be determined. The systematic approach reflected in this theory construction is only a step in the direction of transforming education into a scientific endeavor. Its validity must be checked empirically in order to achieve this purpose in actuality. On the basis of the test, it must be modified and, perhaps, reformulated.

It is also hoped that by its comprehensive and heuristic nature this formulation will stimulate much systematic research. It may serve as the foundation for producing an integrated body of systematically-obtained knowledge. The evidence for the overwhelming need for such knowledge is found in the results of the reviews conducted in this project.

Finally, the study suggests that in its next phase educational research might exchange its dissected and disconnected

search involving unstated, unpredicted, and nonrational relations for an integrated and systematic search of theory-based, operationally-stated relations.

APPENDIX A

SUMMARY OF RESEARCH FINDINGS

Sample Variable Card

Indirect Teacher

The indirect teacher demonstrates the following behaviors:

1. Accepts, clarifies and supports pupils' feelings
2. Praises and encourages
3. Accepts, clarifies and uses pupils' ideas
4. Asks questions to stimulate pupils' participation in decision-making
5. Asks questions to orient pupils to school work
6. Spends a greater percentage of class time listening to pupils rather than speaking.

V (Variable)

Source: E. Amidon and N. Flanders
The Role of the Teacher in the Classroom, Ann Arbor, Michigan: School of Education, University of Michigan, 1963 (Mimeo).

Sample Relation Card

Indirect Teacher Behavior

Achievement in Mathematics and Social Studies

Students of more indirect teachers (the teacher accepts, clarifies and supports pupils' ideas and feelings; praises and encourages; asks questions to stimulate pupils' participation in decision-making; asks questions to orient pupils to school work; spends a greater percentage of class time listening to pupils rather than speaking) scored higher on standard achievement tests in mathematics and social studies than did students of more direct teachers (the teacher lectures, gives directions, criticizes, and/or justifies authority).

F (Found)
K (Knowledge)
TS (Tool Skills)
R (Relation)

Source: E. Amidon and N. Flanders
The Role of the Teacher in the Classroom, Ann Arbor, Michigan: School of Education, University of Michigan, 1963 (Mimeo).

SUMMARY OF RESEARCH FINDINGS: SCHOOL ORGANIZATION

The following categories and subcategories have emerged from an analysis of data on school organization:

A. Grouping Practices

1.0 Number of Groups

2.0 Size of Groups

2.1 Small Group

2.2 Large Group

3.0 Type of Group

3.1 Achievement or Ability

3.2 Multi-age Groups

3.3 Pupil Teams

3.4 Individual or Independent Study

B. Scheduling Practices

1.0 Block Scheduling

2.0 Changing Classes

3.0 Core Scheduling

4.0 Modular Scheduling

C. Instructional Personnel

1.0 Teacher Utilization and Assignment

2.0 Teacher Cooperation in Planning and Evaluation

3.0 Number of Teachers

4.0 Auxiliary Personnel

D. General Programs (Entire program has been credited for an observed effect, rather than attributing it to one specific variable)

1.0 Dual Progress Plan

2.0 New York City's More Effective Schools Program

3.0 Nongraded Programs

4.0 Team Teaching

	N	SOURCE
I. Grouping Practices		
1.0 Number of Groups		
Directly Related to Pupil Outcomes		
The number of groups in which a child is placed has its greatest effect on social-emotional development, and pupil attitudes and interests.		
• Young children (grades 1 and 2) described their teachers as more punitive, less supportive when they met several teachers	$4X_F$	2,3
• Slow learning child makes more affectionate remarks about home room teacher than does average or above average child	$1X_F$	2
• Average and above average children predicted that they would be successful in school the following year	$4X_F$	2
• Pupils could name many more peers	$2X_F$	2,3
Not Directly Related		
• Teachers knew more names of pupils	$1X_F$	2
• Pupils come in contact with greater number of adults	$1X_S$	188
2.0 Size of Group		
2.1 Small Group		
Directly Related to Pupil Outcomes		
• Small group instructor was related to social-emotional development. Placement in groups of 5 to 12 in number encourages oral participation	$3X_S$	2,91,119

2.1 continued

	N	SOURCE
Small groups were found to facilitate learning in:		
• Knowledge	$6X_F$	91
• Tool Skills	$16X_S$ $14X_F$	41,116,120 128,200,201
• Cognition	$1X_F$	240,282
Small groups are usually utilized for tool skills (arithmetic,reading) at the primary level, so size of group is possibly also a factor in the high number of items recorded under Achievement-Ability group: Tool Skills		
Not Directly Related		
Teachers working with small groups:		
• Changed from lecture to discussion	$2X_F$	91
• Knew more about students' personal history	$1X_F$	178
• Observed their students at work	$1X_F$	226
• Made recommendations re special skills, abilities, needs of students	$1X_F$	226

2.2 Large Group

Directly Related to Pupil Outcomes		
• Large group instruction has been stated to have both positive and negative effects on social-emotional development	$3X_S$ $1X_F$	2 2
• Some self-directive behavior has also been attributed to this variable	$3X_F$	183,184,185
• Large group instruction with TV has been stated to increase tool skills	$8X_S$	235

2.2 continued

	N	SOURCE
Not Directly Related		
Large group instruction has had its greatest effect on the teacher, and the use of time, space and materials. It has		
• Led to more efficient use of time and space	$3X_F$	139,187,188
• Led to more efficient purchase of materials	$3X_F$	187
• Freed some teachers for planning and preparation	$3X_F$ $3X_S$	186,187
• Led to greater production and use of audio-visual materials	$3X_F$	183,184,185
• Teachers do not get to know students' needs in large groups	$1X_S$	91

3.0 Type of Group

3.1 Achievement or Ability (Including data from non-graded programs using differential ability grouping)

Directly Related to Pupil Outcomes

Achievement or ability groups(students are placed in homogeneous groups on the basis of scores on achievement and intelligence tests) appears to have a significant impact on the development of knowledge and tool skills for average and above average children.

• Knowledge	$6X_S$	200
	$18X_F$	207,282
	$1X_{NEF}$	191
	$8X_F$ (negative)	43,44,176

3

3.1 continued

	N	SOURCE
• Tool Skills	$13X_S$ $41X_F$	41,116,120 128,131,146 200,207,223 282
	$1X_{NEF}$	191
	$8X_F$ (negative)	43,44,176
• Social-emotional development	$3X_S$	2
	$7X_F$	2,41,128,240
	$3X_{NEF}$	191,282
Two negative effects have been attributed to ability grouping:		
• The slow learning child placed in low ability group tends to remain in low groups	$2X_S$ $2X_F$	144 144
• Superior children (IQ 2 or 3SD above the mean) do not make the achievement expected for their ability	$3X_F$	207
<u>Not Directly Related</u>		
• Met with pupil approval	$1X_F$	161
• Met with community approval	$1X_F$	161

3.2 Multi-age Grouping

<u>Directly Related to Pupil Outcomes</u>

Multi-age grouping (5-6-7, 6-7-8,8-9-10 year olds, etc., in one class)

• Contributes to acquisition of knowledge	$2X_S$ $2X_F$	75,219
• Facilitates learning of tool skills	$6X_F$	75,219
• Affects social emotional development	$4X_S$ $2X_F$	75,219

3.2 continued

	N	SOURCE
• Encourages self-direction	$1X_S$	219
• Improves pupil attitudes toward school	$2X_F$	75
<u>Not Directly Related</u>		
Multi-age grouping		
• Allowed administrators to keep class size equal regardless of different numbers of children at different age levels	$2X_F$	75,219
• Kept teacher-pupil ratio equal for all classes	$2X_F$	219
• Facilitates individualizing instruction	$2X_S$	219
3.3 Pupil Teams		
<u>Directly Related to Pupil Outcomes</u>		
Pupil teams (2 or 3 children working together without direct teacher instruction)		
• Had a strong effect on tool skills, especially spelling and arithmetic	$4X_S$ $4X_F$	61,76 77
• Led to self-direction(self-evaluation)	$2X_F$	61,77
<u>Not Directly Related</u>		
• Pupil teams for skill subjects facilitated teacher's organization of time	$2X_F$	76,77

	N	SOURCE
3.4 Individual or Independent Study		
Directly Related to Pupil Outcomes		
Individual or independent study		
• Affects pupils acquisition of knowledge	$3X_S$ $6X_F$	157 249,260
• Improves tool skills	$5X_F$ $8X_F$	157 249,260
• Leads to further self-direction	$1X_S$ $4X_F$	157 249,260
Not Directly Related		
Individual or independent study		
• Received community support	$1X_F$	161
• Received teacher support	$1X_F$	161
II. Scheduling Practices		
1.0 Block Scheduling		
Directly Related to Pupil Outcomes		
• Block scheduling facilitated correction of speech problems	$1X_F$	79
• Block scheduling provides for teacher planning time during school day	$1X_F$	153
2.0 Changing Classes		
Directly Related to Pupil Outcomes		
Changing classes appears to have positive effects on		
• Social-emotional growth	$1X_F$	161

2.0 continued	N	SOURCE
• Pupils attitudes and interests in school	$3X_F$	161,215
• Improved adjustment to Junior High School program	$1X_F$	161
• Increased disciplinary problems	$2X_F$	161
<u>Not Directly Related</u>		
• Changing classes met with community approval	$1X_F$	161
3.0 <u>Core Scheduling</u>		
<u>Directly Related to Pupil Outcomes</u>		
Core scheduling was stated to affect pupils'		
• Knowledge	$2X_S$	223
• Tool skills	$2X_S$	223
<u>Not Directly Related</u>		
Core scheduling facilitated organization	$1X_S$	223
• Provided for more efficient and economical use of materials	$1X_S$	223
• Teachers approved of core scheduling	$1X_F$	223
• Facilitated in-depth preparation by teachers	$1X_S$	223
(Most data reported from core programs such as the Dual Progress Plan was specifically attributed to the achievement-ability differential subgrouping and is reported in that section)		

	N	SOURCE

4.0 Modular Scheduling:

Directly Related to Pupil Outcomes

Modular scheduling is relatively unknown in the elementary school. As used in two middle school programs it contributed slightly to:

• Growth in self-direction	$2X_F$	28,273
• Improved pupil attitudes	$2X_F$	28,273

Not Directly Related

Modular scheduling facilitated organization	$2X_F$	28,273

III. Instructional Personnel

1.0 Teacher Utilization and Assignment

Directly Related to Pupil Outcomes

Teacher utilization and assignment (including teacher specialization) was stated and found to contribute to pupil growth in knowledge, tool skills, and motor skills as follows:

• Knowledge	$5X_S$	2,28,126
	$5X_F$	161,232
• Tool Skills	$3X_S$	2,28,126
	$4X_F$	161,232
• Motor Skills	$1X_S$	161
	$1X_F$	161

1.0 continued

	N	SOURCE
Not Directly Related		
Teacher utilization and assignment (including teacher specialization) has positive effects on:		
• Teacher morale	$2X_S$ $2X_F$	28,161 186,230
• Professional growth	$2X_S$ $2X_F$	247 247
• Met with community approval	$2X_F$	28,161
2.0 **Teacher Cooperation in Planning and Evaluation**		
Directly Related to Pupil Outcomes		
Teacher cooperation in planning and evaluation was stated to contribute to:		
• Increased pupil knowledge	$2X_S$	217,276
• Improvement in tool skills	$3X_S$	217,276
Not Directly Related		
Teacher cooperation in planning and evaluation results in professional growth such as:		
• Improvement in instructional techniques	$6X_S$	187,230,260
• Curriculum improvement	$2X_S$	187,260
• Greater objectivity in evaluating pupils	$2X_S$	161,187
• Increased teacher familiarity with pupils abilities and past records	$2X_S$	187,188

	N	SOURCE
3.0 Number of Teachers		
Directly Related to Pupil Outcomes		
The number of teachers appears to have little effect on pupil, with the possible exception of social emotional development	$2X_S$ $2X_F$	2,161 187
Not Directly Related		
The number of teachers affects:		
• School organization	$2X_S$	126,187
• Teacher utilization	$2X_F$	126,187
4.0 Auxiliary Personnel		
Directly Related to Pupil Outcomes		
The use of auxiliary personnel (aides, paraprofessionals, sub-professionals, etc.) has begun to show some effect on pupil growth in:		
• Knowledge	$2X_F$	60,143
• Tool Skills	$3X_S$ $3X_F$	145
It is anticipated to affect:		
• Social-emotional development	$2X_S$	26
• Attitudes	$2X_S$	26
Not Directly Related		
The use of auxiliary personnel:		
• Frees teachers from many clerical, monitorial and housekeeping duties	$4X_S$ $4X_F$	143,186 187,188

4.0 continued

	N	SOURCE
• Permits time for planning and preparation	$4X_S$	143,186
	$4X_F$	187,188
• Provides more teacher time for direct instruction	$4X_S$	143,186
	$4X_F$	187,188
• New programs anticipate better home-school relationships particularly when aides represent the minority group and can serve as cultural liaison between school and neighborhood	$2X_S$	26

IV. General Programs(Specific Variables Not Indicated)

1.0 Dual Progress Plan(Variables are core and differential ability/achievement grouping, teacher specialization, and changing classes, each of which has been itemized.)

Directly Related to Pupil Outcomes

Growth attributed simply to the Plan (without specifying which variable) include:

• Knowledge	$3X_F$	161
	$2X_{NEF}$	126
• Tool Skills	$3X_F$	161
	$2X_{NEF}$	126
• Social-emotional growth	$3X_F$	126
• Pupil attitudes and interests	$3X_F$	126

1.0 continued

	N	SOURCE
Not Directly Related		
The Dual Progress Plan received		
• Community support	$2X_F$	161
• Teacher support	$2X_F$	161
2.0 New York City's More Effective Schools Program		
Directly Related to Pupil Outcomes		
Specific variables are reduced pupil-teacher ratio, reduced class size, increased instructional assistance (in the form of an assistant principal for each two grades), increased social and health services, increased supplies and equipment.		
Increased pupil achievement has been attributed to the entire program:		
• Knowledge	$5X_F$	144
• Tool Skills	$5X_F$	144
3.0 Nongraded Programs		
Directly Related to Pupil Outcomes		
Most of the effects can be attributed to specific variables listed in previous categories. The majority of studies of continuous progress plans reported significantly higher achievement in:		
• Tool Skills	$36X_F$	41,116
• Knowledge	$10X_F$	120,128
• Increased social and emotional growth	$1X_F$	200,282
• Positive effects on pupil attitudes toward school	$3X_F$	

3.0 continued

	N	SOURCE
Not Directly Related		
• Nongraded programs received community and teacher support where careful orientation was carried on prior to implementation	$2X_F$	
Nongraded programs which have been dropped have:		
• Lacked community support	$4X_F$	41,116
• Lacked teacher support	$3X_F$	120,128
• Were found to be more difficult to administer	$2X_F$	200,282
• Had had insufficient parent orientation	$2X_F$	
• Had had insufficient teacher preparation	$2X_F$	

D. Team Teaching

Directly Related to Pupil Outcomes

In the many varieties of the form of organizational pattern known as team teaching, some common variables are differential grouping (ability and achievement), variations in group size, teacher specialization and utilization, cooperative planning and evaluation. Most data from team teaching reports have been filed under such variables. In a few instances, increases in:

• Knowledge	$3X_F$	215

3.0 continued

	N	SOURCE
• Tool Skills	$3X_F$	215
• Social emotional development	$1X_F$	215

have been attributed simply to team teaching. These are reported in this section.

<u>Not Directly Related</u>

• Team teaching received teacher support	$2X_F$	215

GROUPING	Knowledge		Tool Skills		Social Emotional		Self Direction		Cognition		Attitudes Interests		Not Directly Related	
	S	F	S	F	S	F	S	F	S	F	S	F	S	F
1.0 Number of Groups						+6						+1 -4		+1 Teacher
2.0 Size of Group														
Small Group		+6	+16	+14	+3									+4 Teacher
Large Group			+8		+3			+3					+3 Teacher -1 Teacher	+3 Teacher +3 Time +3 Material +3 Use of AV
3.0 Type of Group Ability-Achievement (including non-graded)	+6 1NE	+18 1NE -8	+13	+41 1NE -8	+3 -2	+7 3NE -2							+1 Teacher	+1 Pupil +1 Community
Multi-Age	+2	+2		+6	+4	+2	+1					+2		+2 Teacher +2 Organization
Pupil Teams			+4	+4			+2	+2			+1	+1		+2 Teacher
Individual/ Independent		+6		+8				+4						+1 Community +1 Teacher

SCHEDULING	Knowledge		Tool Skills		Social Emotional		Self Direction		Cognition		Attitudes Interests		Not Directly Related	
	S	F	S	F	S	F	S	F	S	F	S	F	S	F
1.0 Block				+1										+1 Teacher
2.0 Changing Classes						+1		+1				+3		+1 Community
3.0 Core	+2		+2										+1 Organization +1 Materials	+1 Teacher
4.0 Modular								+2				+2		+2 Organization
INSTRUCTIONAL PERSONNEL														
1.0 Teacher Utilization and Assignment	+5	+8	+3 +1	Motor Skills +1 +4									+2 Teacher	+4 Teacher +2 Community
2.0 Teacher Cooperation in Planning and Evaluation	+2		+3										+8 Teacher +2 Pupil +2 Curriculum	
3.0 Number of Teachers					+2	+2							+2 Teacher +2 Organization	
4.0 Auxiliary Personnel		+2	+3	+3	+2						+2		+4 Teacher +2 Community	+4 Teacher

TALLY OF RESEARCH FINDINGS: SCHOOL ORGANIZATION (3)

GENERAL PROGRAMS (Specific variables not indicated)	Knowledge		Tool Skills		Social Emotional		Self Direction		Cognition		Attitudes Interests		Not Directly Related	
	S	F	S	F	S	F	S	F	S	F	S	F	S	F
1.0 Dual Progress Plan	+3	+3	+3	+3								+3		+1 Teacher +1 Community
2.0 New York City's "More Effective Schools" Program		+5		+5										
3.0 Team Teaching		+3		+3		+1								+2 Teacher
4.0 Nongraded Programs (Continuous Progress)		+10 -6		+36 8NE -9		+1 4NE								+2 Community +4 Teacher -12 Programs dropped - Chief Reasons given: Parents preferred graded (4) Teachers preferred graded (2) Difficult to administer (2) Lack of parent orientation (2) Lack of teacher orientation (2)

SUMMARY OF RESEARCH FINDINGS: SCHOOL ADMINISTRATION

In reviewing the raw data pertaining to the administrator and his functions, the following major categories and sub-categories have emerged:

A. Group I Traits and Personal Characteristics of Administrators

1. Age
2. Sex
3. Marital Status
4. Intelligence and Cognitive Abilities
5. Personality Traits
6. Interests and Attitudes

B. Group II Cultural and Background Knowledge: Training, Skills, Experience and Ratings of Administrators

1. Cultural and Background Knowledge
2. Training in Education
3. Knowledge of Educational Practices - Teaching
4. Knowledge of Educational Practices - Administration
5. Experience in Education - Teaching
6. Experience in Education - Administration
7. Ratings of Administrators - By Teachers
8. Ratings of Administrators - By Superiors

C. Group III Attitudes Toward and Relationships of Administrators with Pupils, Teachers, Other Administrators, Superiors Education, Community

1. Attitudes and Relationships - Pupils
2. Attitudes and Relationships - Teachers
3. Attitudes and Relationships - Other Administrators
4. Attitudes and Relationships - Superiors
5. Attitudes and Relationships - Education
6. Attitudes and Relationships - Community

D. Group IV Role Functions and School Behaviors of Administrators

1. Leadership Role of Principal - Democratic
2. Leadership Role of Principal - Authoritarian
3. Leadership Role of Principal - Paternal
4. Leadership Role of Principal - Laissez-Faire
5. Supervisory Role of Administrator
6. Administrative Role of Principal
7. School Behaviors of Administrator

E. Group V Organizational Climate of the School

1. Open Climate
2. Autonomous Climate
3. Controlled Climate
4. Familiar Climate
5. Paternal Climate
6. Closed Climate

Group I - Traits and Personal Characteristics of Administrators

	N	SOURCE
Directly Related to Pupil Outcomes		
Traits and personal characteristics of administrators (age, sex, marital status, intelligence and cognitive abilities, personality factors, and interests) appear to have no direct effect on the six pupil objectives:		
• Knowledge		
• Tool Skills		
• Social-emotional		
• Self-direction		
• Cognitive Development		
• Attitudes and Interests Toward School		
Not Directly Related or Correlates		
1.0 Age of Administrator		
1.1 The younger the principal at the time of his appointment, the higher his current scores of executive professional leadership.	$1X_F$	319,320
1.2 The older the principal, the lower his scores of executive professional leadership.	$1X_F$	319,320
1.3 There was no significant relationship found between the age of the principal and administrative style re:		
• Preparation for decision (the principal investigates fully before making decisions)	$1XNE_F$	333

	N	SOURCE
1.3 continued		
• Amount (volume) of work produced in completing tasks.	$1XNE_F$	333
• High organization style (schedules, specifies times and tasks)	$1XNE_F$	332
• The organizational climate of his school	$1XNE_F$	308
1.4 Principals over 50 years of age:		
• Had a high degree of response to outsiders(parents, community members)	$1X_F$	332
• Stressed directing the work of others	$1X_F$	332
2.0 <u>Sex of Administrator</u>		
2.1 There was no significant relationship found between the sex of the principal and his administrative style re:		
• Preparation for decision (investigates fully before making decisions)	$1XNE_F$	333
• Amount (volume) of work produced in completing tasks	$1XNE_F$	333
• Stress on organizing work	$1XNE_F$	332
• The organizational climate of his school	$1XNE_F$	308
2.2 There was no statistically significant relationship found between the sex of a principal and his score of executive professional leadership.	$1X_F$	319,320

	N	SOURCE
2.0 continued		
2.3 Male Principals		
• Compiled with suggestions of others	$1X_F$	332
• Stressed analyzing a situation	$1X_F$	332
2.4 Female Principals		
• Stressed exchanging information	$1X_F$	332
• Stressed maintaining organizational relationships	$1X_F$	332
• Had a high degree of response to outsiders	$1X_F$	332
3.0 Marital Status of Administrator		
There was no significant relationship found between the marital status of the principal and		
• The organizational climate of his school	$1XNE_F$	308
• His scores of executive professional leadership	$1XNE_F$	319,320
4.0 Intelligence and Cognitive Abilities of Administrator		
4.1 Principals of high intelligence:		
• Did not respond to the pressures and demands of outsiders	$1X_F$	332

4.1 continued

	N	SOURCE
• Did not stress directing others	$1X_F$	332
• Had a high degree of professional leadership	$1X_F$	319,320
4.2 There was no significant relationship found between verbal fluency and:		
• Degree of discussion before acting	$1XNE_F$	332
• Stress on organizing work	$1XNE_F$	332
4.3 Principals with high verbal fluency:		
• Stressed preparation for decision	$1X_F$	333
• Produced a large volume of work while completing tasks	$1X_F$	333
• Stressed exchanging information	$1X_F$	332
4.4 Principals who scored high in tests of reasoning and association:		
• Stressed preparation for decision	$1X_F$	333
• Complied with suggestions of others	$1X_F$	332
• Stressed analyzing situations	$1X_F$	332

4.0 continued

	N	SOURCE
4.5 Principals who learned new material quickly:		
• Stressed preparation for decision	$1X_F$	333
• Produced a large volume of work when completing tasks	$1X_F$	333
4.6 Principals who were unable to learn new material quickly stressed giving directions to others	$1X_F$	332
4.7 Principals who scored low in tests of seeing relationships stressed maintaining organizational relationships	$1X_F$	332

5.0 <u>Personality Traits of Administrators</u>

5.1 There was no significant relationship found between *personality traits* (*stable*-unstable; secure-insecure; dominant-submissive; mature-naive; confident-shy; sociable-sober; practical-impractical) of administrators and administrative style re:		
• Preparation for decision	$1XNE_F$	333
• Volume of work produced	$1XNE_F$	333
5.2 Principals who were mature, confident, sociable, stressed:		
• Exchanging information	$1X_F$	332
• Discussing rather than taking action	$1X_F$	332

5.0 continued

	N	SOURCE
5.3 Principals who were unstable and insecure:		
• Complied with suggestions of others	$1X_F$	332
• Stressed maintaining organizational relationships	$1X_F$	332
• Stressed organizing work	$1X_F$	332
5.4 Principals who were dominant and practical stressed analyzing situations	$1X_F$	332
5.5 Principals who were naive, submissive, and shy responded strongly to pressure from outsiders	$1X_F$	332
5.6 Principals who were sober and stable stressed directing the work of others	$1X_F$	332
6.0 Interests and Attitudes of Administrators		
6.1 There was no significant relationship found between the interests and attitudes of principals and the volume of work produced in completing tasks	$1XNE_F$	333
6.2 Principals who had interests like school superintendents stressed:		
• Exchanging information	$1X_F$	332
• Maintaining organizational relationships	$1X_F$	332

6.0 continued

	N	SOURCE
6.3 Principals who had interests unlike school superintendents:		
• Complied with suggestions of others	$1X_F$	332
• Stressed organizing work	$1X_F$	332
• Stressed directing the work of others	$1X_F$	332
6.4 Principals who had interests like public administrators stressed:		
• Discussing with others	$1X_F$	332
• Analyzing situations	$1X_F$	332
6.5 Principals who had interests unlike public administrators:		
• Stressed organizing work	$1X_F$	332
• Responded to the pressures of outsiders	$1X_F$	332
6.6 Principals who had interests like lawyers stressed:		
• Preparation for decision	$1X_F$	333
• Exchanging information	$1X_F$	332
• Maintaining organizational relationships	$1X_F$	332
6.7 Principals who had interests unlike lawyers:		
• Responded to the pressures of outsiders	$1X_F$	332
• Stressed directing the work of others	$1X_F$	332

6.0 continued

	N	SOURCE
6.8 Principals who had interests like policemen:		
• Stressed discussing rather than acting	$1X_F$	332
• Complied with suggestions of others	$1X_F$	332
• Stressed analyzing situations	$1X_F$	332
6.9 Principals who had interests unlike policemen stressed exchanging information	$1X_F$	332
6.10 Principals who had interests like psychologists stressed:		
• Preparation for decision	$1X_F$	333
• Exchanging information	$1X_F$	332
6.11 Principals who had interests unlike psychologists stressed organizing work	$1X_F$	333

Group II. <u>Cultural and Background Knowledge; Training, Skills, Experience and Ratings of Administrators</u>

<u>Directly Related to Pupil Outcomes</u>

The cultural and background knowledge; training, skills, experience and ratings of administrators appear to have no direct effect upon the six pupil objectives:

- Knowledge
- Tool Skills
- Social-emotional Development
- Self-direction
- Cognitive Development
- Attitudes and Interests Toward School

	N	SOURCE
Not Directly Related or Correlates		
1.0 Cultural and Background Knowledge		
1.1 There was no significant relationship found between the number of years of formal education of an administrator and the organizational climate of his school	$1XNE_F$	308
1.2 There was no significant relationship found between the administrator's knowledge of general culture and his administrative style re:		
• Stress on discussion rather than action	$1XNE_F$	332
• Stress on organizing work	$1XNE_F$	332
1.3 Principals who achieved high scores on tests of general culture:		
• Stressed preparation for decision	$1X_F$	333
• Produced a large volume of work in completing tasks	$1X_F$	333
• Stressed exchanging information	$1X_F$	332
• Complied with suggestions of others	$1X_F$	332
• Stressed analyzing situations	$1X_F$	332
• Did not respond to the pressures of outsiders	$1X_F$	332
• Did not stress directing others	$1X_F$	332

1.0 continued

	N	SOURCE
1.4 There was no significant relationship found between scores achieved by a principal on tests of mathematics and science and his administrative style re:		
• Stress on discussion	$1XNE_F$	332
• Stress on organizing work	$1XNE_F$	332
1.5 Principals who achieved high scores on tests of science and/or mathematics:		
• Complied with suggestions of others	$1X_F$	332
• Stressed preparation for decision(science high)	$1X_F$	333
• Produced a large volume of work in completing tasks (science high)	$1X_F$	333
• Stressed analyzing situations	$1X_F$	332
• Did not stress maintaining organizational relationships	$1X_F$	332
• Did not respond to the pressures of outsiders	$1X_F$	332
• Received high ratings of executive professional leadership	$1X_F$	319,320
2.0 <u>Training in Education</u>		
2.1 There is a trend toward a negative relationship between the number of undergraduate semester hours training in education and the professional leadership of principals	$1X_F$	319,320

2.0 continued

	N	SOURCE
2.2 There is a trend toward a negative relationship between the number of semester hours of training in education and the professional leadership of principals	$1X_S$	319,320
2.3 The greater the number of semester hours preparation in administration, the lower the principals' scores on professional leadership	$1X_F$	319,320
2.4 The quality of the undergraduate and the graduate courses in education needs attention	$1X_S$	319,320
3.0 <u>Knowledge of Educational Practices-Teaching</u>		
3.1 There was no significant relationship found between principals' knowledge of educational practices and administrative style re:		
• Stress on discussing before acting	$1XNE_F$	333
• Stress on organizing work	$1XNE_F$	332
3.2 Principals who achieved high scores on tests of educational practices:		
• Stressed preparation for decision	$1X_F$	333
• Produced a large volume of work in completing tasks	$1X_F$	333
• Stressed exchanging information	$1X_F$	332

	N	SOURCE
4.0 Knowledge of Educational Practices-Administration		
4.1 There was no significant relationship found between principals' knowledge of administrative practices and administrative style re:		
• Stress on discussing before acting	$1XNE_F$	333
• Stress on organizing work	$1XNE_F$	332
4.2 Principals who achieved high scores on tests of accepted administrative practices:		
• Stressed preparation for decision	$1X_F$	333
• Produced a large volume of work in completing tasks	$1X_F$	333
• Stressed exchanging information	$1X_F$	332
• Did not respond to pressures from outsiders	$1X_F$	332
5.0 Experience in Education - Teaching		
5.1 There was no significant relationship found between principal's number of years experience in teaching and his:		

5.1 continued

	N	SOURCE
• Stress on preparation for decision	$1XNE_F$	333
• Volume of work produced	$1XNE_F$	333
• Stress on organizing work	$1XNE_F$	332
• The organizational climate of the school	$1XNE_F$	308
• Scores of executive professional leadership	$5XNE_F$	319,320,330
5.2 Principals who had had 15-19 years of experience in teaching responded to pressures from outsiders	$1X_F$	332,333
5.3 Principals who had had 20 or more years teaching experience stressed directing the work of others	$1X_F$	332,333

6.0 <u>Experience in Education-Administration</u>

6.1 There was no significant difference found between the principal's number of years experience in administration and:

• His scores of executive professional leadership	$2XNE_F$	319,320,330
• Stress on preparation for decision	$1XNE_F$	333
• Volume of work produced	$1XNE_F$	333

6.1 continued

	N	SOURCE
• The organizational climate of the school	$1XNE_F$	308
6.2 Principals with fewer than five years' experience in administration complied with the suggestions of others	$1X_F$	332,333
6.3 Principals with between 6 and 15 years' experience stressed analyzing situations	$1X_F$	332,333
6.4 The number of years of educational experience of a principal <u>in his present school</u> has a significantly greater influence on the organizational climate of a small school than of a medium or large sized school	$1X_F$	308
7.0 <u>Ratings of Administrators by Teachers</u>		
7.1 There was no significant relationship found between ratings given to administrators by teachers on their staffs and:		
• Stress on preparation for decision	$1XNE_F$	333
• Volume of work produced	$1XNE_F$	333
• Degree of response to pressure from outsiders	$1XNE_F$	332
7.2 High ratings by teachers were given to administrators who stressed:		

7.2 continued

	N	SOURCE
• Exchanging information	$1X_F$	332
• Organizing work	$1X_F$	332
• Maintaining organizational relationships (very high rating)	$1X_F$	332
7.3 Low ratings by teachers were given to administrators who:		
• Stressed discussing before acting	$1X_F$	332
• Complied with suggestions of others	$1X_F$	332
• Stressed analyzing situations	$1X_F$	332
• Stressed directing the work of others	$1X_F$	332

8.0 Ratings of Administrators by Superiors

8.1 There was no significant relationship found between ratings given to principals by their superiors and the principals' stress on:		
• Maintaining organizational relationships	$1XNE_F$	332
• Directing the work of others	$1XNE_F$	332
• Volume of work (negative to slightly positive)	$1XNE_F$	333
8.2 High ratings by superiors were given to principals who stressed:		

8.2 continued

	N	SOURCE
• Preparation for decision	$1X_F$	333
• Exchanging information (very high)	$1X_F$	332
8.3 Low ratings by superiors were given to principals who:		
• Responded to outsiders (slightly negative)	$1X_F$	332
• Stressed discussing before acting	$1X_F$	333
• Stressed analyzing situations	$1X_F$	332
• Stressed organizing work	$1X_F$	332
• Complied with suggestions of others (very low)	$1X_F$	332
9.0 <u>Region of Work</u>		
9.1 There was no statistically significant relationship found between the regional location of the principal's school and his score of executive professional leadership	$1XNE_F$	319,320
9.2 There was no statistically significant relationship found between the size of the city in which the principal's school was located and his score of executive professional leadership	$1XNE_F$	319,320

9.0 continued

	N	SCOURCE
9.3 The larger the student body of the school, the lower the principal's ascribed professional leadership	$1X_F$	319,320

10.0 Salary of Principal

10.1 There was no statistically significant relationship found between the amount of money received as salary by the principal and his score of executive professional leadership	$1XNE_F$	319,320

Group III Attitudes Toward and Relationships of Administrators with Pupils, Teachers, Other Administratcrs, Superiors, Education, Community

Directly Related to Pupil Outcomes

The attitudes and relationships of administrators toward pupils, teachers, other administrators, superiors, education and community in general appear to have no direct relationship on the six pupil objectives:

- Knowledge
- Tool Skills
- Social Emotional Development
- Self-Direction
- Cognitive Development
- Attitudes Toward and Interests in School

	N	SOURCE
Not Directly Related or Correlates		
1.0 Attitudes and Relationships of Administrators-Pupils		
1.1 Principals who valued the educational needs of children also stressed preparation for decision	$1XNE_F$	333
1.2 There was no significant relationship found between the level of empathy of a principal and the organizational climate of his school	$1XNE_F$	308
1.3 There was no significant relationship found between the principal's acceptance of himself and others and the organizational climate of the school	$1XNE_F$	308
2.0 Attitudes and Relationship of Administrators-Teachers		
2.1 Teachers who perceive their principals as personal-needs fulfillment-oriented leads to an increase in self-rating of teacher effectiveness	$1X_F$	318
2.2 Teachers who perceive their principals as task-oriented leads to a reduction in teacher's:		
• Self-rating of effectiveness	$1X_F$	318
• Confidence in principal's leadership	$1X_F$	318
• Expressed personal satisfaction in school	$1X_F$	318

2.0 continued

	N	SOURCE
2.3 Teachers who perceive their principals as balanced between goal-oriented and personal-needs fulfillment oriented exhibit:		
• Confidence in principal's leadership	$1X_F$	318
• Satisfaction with school	$1X_F$	318
• High self-ratings in teaching effectiveness	$1X_F$	318
2.4 There was no significant relationship found between the level of empathy of a principal and the organizational climate of his school	$1XNE_F$	308
2.5 There was no significant relationship found between a principal's acceptance of himself and others and the organizational climate of his school	$1XNE_F$	308
2.6 Only a slight positive correlation was found between the way leaders believe they should behave, and the way group members described them as behaving (Halpin)	$1XNE_F$	308
2.7 Leaders believe they show more consideration and initiating structure than group members perceive them doing	$1X_F$	326

	N	SOURCE
3.0 <u>Attitudes and Relationships of Administrators-Toward Self and Other Administrators</u>		
3.1 The principal who rates himself high on his managerial skills is rated low by his teachers in professional leadership	$1X_F$	319,320
3.2 The principal who rates himself high on his ability to provide professional leadership is also rated high by his teachers in professional leadership	$1X_F$	319,320
3.3 The principal's own perception of his own leadership style has no effect on:		
• Teacher effectiveness (self-rated)	$1X_F$	318
• Teacher confidence in leadership of principal	$1X_F$	318
• Teacher's expressed satisfaction in teaching	$1X_F$	318
3.4 Principal Teams (5 principals working in close interaction jointly administer 5 schools) led to:		
• Motivation of individual principals to move into new projects	$1X_F$	284
• Motivation of individual principals to self-improvement: take professional training, increase knowledge, through reading, attend conferences, etc.	$1X_F$	284

3.4 continued

	N	SOURCE
• Increased willingness of principals to risk failure: become involved in major organizational changes, tackle controversial issues	$1X_F$	284
• Peer level feedback on quality professional work	$1X_F$	284
• Mutual respect based on demonstrated competencies and human qualities	$1X_F$	284
3.5 Democratic participation in decision-making is positively correlated with "most successful" ratings received by superintendents	$1X_F$	316
3.6 There was no statistically significant relationship found between the number (0,1,or more) of administrative assistants to an elementary principal and his score of executive professional leadership	$1XNE_F$	319,320
4.0 <u>Attitudes and Relationships of Administrators-Superiors</u>		
4.1 Principals whose administrative superiors endorse their efforts to improve teaching methods demonstrate effective professional leadership (ascribed to them by teachers)	$1X_F$	298
4.2 Principals whose administrative superiors give them social support (principal can talk frankly about problems, etc.) demonstrate higher degree of professional leadership (ascribed to them by teachers)	$1X_F$	319,320

4.0 continued

	N	SOURCE
4.3 Principals whose administrative superiors allowed them to participate in selection of teachers are rated high in professional leadership by teachers	$1X_F$	319,320
4.4 The greater the degree of professional leadership ascribed to superiors by principals, the greater the degree of professional leadership ascribed to principals by teachers	$1X_F$	319,320
4.5 The second in command conforms to the judgment of others more than the first or the last	$1X_F$	330

5.0 <u>Attitudes of Administrators-Education</u>

5.1 Principal's motivation in becoming a principal:		
a. Increased service motive was significantly related to high ratings of principals in professional leadership	$1X_F$	319,320
b. Upward mobility motivation not related to ratings of professional leadership	$1X_F$	319,320
c. Increased salary motivation not related to ratings of professional leadership	$1X_F$	319,320
5.2 Principals who attach either a great deal or very little importance to managerial duties are rated low in professional leadership by their teachers	$1X_F$	319,320

5.0 continued

	N	SOURCE
5.3 The principal who internalizes the professional definition of his role (curriculum improvement, counseling students, introducing new teaching ideas, etc.) receives high ratings on professional leadership	$1X_F$	319,320
5.4 Principals who devote much off-duty time to the job receive high ratings on professional leadership from teachers	$1X_F$	319,320
5.5 Active participation in professional organizations is significantly related to effective secondary administrative leadership	$1X_F$	330
5.6 Principals who kept themselves informed through reading, study, and participation in in-service programs for administrators also had good staff relations with their faculties	$1X_F$	330
5.7 Educators, including administrators, assign a higher priority of importance to intellectual tasks for schools than do non-educators	$1X_F$	330

6.0 <u>Attitudes and Relationships of Administrators-Community</u>

6.1 As an aspect of the school environment changes, the attitude of the principal changes:

• When the socio-economic status of pupils is primarily lower social class, principals encourage parent participation in school affairs	$1X_S$	298

6.1 continued

	N	SOURCE
• When the environment includes mostly upper-middle class children principals attempt to suppress parent participation	$1X_S$	298
6.2 The public school as a domesticated organization is slow to adapt its practices and innovate change	$1X_F$	299
6.3 Active participation in civic and fraternal organizations is significantly related to effective secondary administrative leadership	$1X_F$	330
6.4 Administrators: Insiders or Outsiders		
a. Administrators appointed from within the system:		
• Stress technical and managerial rules	$1X_F$	299
• Stress interpersonal relations with other staff members	$1X_F$	299
b. Administrators appointed from outside the system:		
• Receive higher salaries	$1X_F$	299
• Receive more support from superiors	$1X_F$	299
• Develop more rules at the institutional level (which stress changes in character of organization)	$1X_F$	299
• Are impersonal in relationships with other staff members	$1X_F$	299

Group IV Role Functions and School Behaviors of Administrators

Directly Related to Pupil Outcomes

No data has been uncovered which directly related principals' role functions and school behaviors with the six pupil objectives:

- Knowledge
- Tool Skills
- Social Emotional Development
- Self-Direction
- Cognitive Development
- Attitudes Toward and Interest in School

Not Directly Related or Correlates	N	Source
1.0 Leadership Role of Principal-Democratic		
1.1 As the principal shares his leadership with his staff(members of the group define common goals, develop group feelings, plan work to be done and how it will be accomplished, etc.):		
• Teachers assume a greater degree of responsibility	$1X_S$	370
• The group develops self-discipline	$1X_S$	370
• The leadership ability of the group increases	$1X_S$	370
• There is a balance between initiation by principal and by staff	$1X_S$	325
• Will more easily persuade others to accept and try his ideas	$1X_S$	342

1.0 continued

	N	SOURCE
1.2 As the principal shares with his staff the responsibility for selecting new staff members the quality of the staff is improved	$1X_S$	370
1.3 The administrator who shares decision-making with the group will:		
• Effect desired changes in curriculum	$1X_F$	371
• Have a staff which expresses satisfaction with the school	$4X_S$	302,304,364,370
• Effect improvement in teacher performance	$1X_S$,$1X_F$	304,370
• Receives high ratings from his teachers on his professional leadership	$2X_F$	319,320
1.4 The principal who minimizes distinctions of formal status:		
• Demonstrates a high degree of executive professional leadership(ascribed to him by his staff)	$1X_F$	320
• Achieves staff cooperation in improving school programs	$1X_S$,$2X_F$	320,370,371

	N	SOURCE
• Will encourage his staff members to bring him complete and accurate information prior to decision-making	$1X_S$	342
• Will encourage feedback on a decision which has been put into practice	$1X_S$	342
2.0 <u>Leadership Role of Principal-Authoritarian</u>		
2.1 A harsh, dominating official leader results in:		
• An antagonistic, uncooperative staff	$1X_F$	370
• Little task accomplishment	$1X_S$	326
• Low job satisfaction for teachers	$1X_S$	326
• Much busywork	$1X_S$	326
• Minimum group achievement	$1X_S$	326
• Few friendly relations among staff	$1X_S$	326
2.2 A harsh, dominating official leader:		
• Emphasizes production	$1X_S$	326
• Sets arbitrary rules	$1X_S$	326
• Does not set a work example for his teachers by his own actions	$1X_S$	326

	N	SOURCE
3.0 Leadership Role of Principal-Paternal		
3.1 A principal who makes all the decisions for his staff members, delegates few responsibilities, checks details of the work of others results in:		
• A submissive, dependent group which does not accept responsibility	$1X_S$,$1X_F$	326,370
• Teachers splitting into factions	$1X_S$	326
• Little job satisfaction for teachers	$1X_S$	326
4.0 Leadership Role of Principal - Laissez-Faire		
4.1 A group with a leader who does not tell teachers what he thinks; does not restrict teachers' activities or impose patterns; listens to all, but avoids giving answers results in a group which is:		
• Indifferent	$1X_F$	370
• Disinterested	$1X_F$	326
• Lacks purposes or goals	$1X_S$,$1X_F$	326,370
• Fails to produce	$1X_S$,$1X_F$	326,370
• High in personal and social-needs satisfaction	$1X_S$	326
• Low in job satisfactions	$1X_S$	326
5.0 Supervisory Role of Administrator		
5.1 A supervisor who makes changes based on evaluation will cause increased staff acceptance of change	$1X_S$	370

5.0 continued

	N	SOURCE
5.2 A supervisor who puts his staff at ease will be accepted as a leader	$1X_S$	370
5.3 A supervisor who promotes job satisfactions of teachers promotes high morale of his staff	$1X_S$	370
5.4 A supervisor who encourages self-evaluation by teachers fosters teachers who encourage self-evaluation in their pupils	$1X_S$	370
5.5 The use of a checklist system for evaluating teachers results in less effective teaching	$1X_S$	370
5.6 Use of curriculum consultants (master teachers with academic preparation in subjects and demonstrated leadership) to replace department heads (secondary school) results in:		
• Broadened scope of teaching(teachers work together to combine disciplines and strengths)	$1X_S$	331
• Increased seeking of help by teachers	$1X_S$	331
• Increased communication and interpretation of school program	$1X_S$	331
• Development of a curriculum center	$1X_S$	331
• Development of curriculum guides by teachers	$1X_S$	331
• Teachers increased use of curriculum guides	$1X_S$	331

	N	SOURCE
6.0 Administrative Role of Principal		
6.1 As the principal segregates students who do not conform to academic or behavior expectations of the school in a special program (vocational, general, etc.) for the remainder of their school years, goal displacement results (teachers have conferences with parents about pupil discipline more frequently than they do about the school work of the child)	$1X_F$	298
6.2 A principal who provides managerial support for his staff receives a high rating from teachers on his professional leadership	$1X_F$	319,320
6.3 Principals who support teachers in cases of conflict between teacher and pupil receive high ratings on executive professional leadership	$1X_F$	319,320
6.4 Principals who provide social support for teachers (teachers can discuss problems frankly) receive high ratings on professional leadership	$1X_F$	319,320
6.5 The principal facilitates individualizing instruction for pupils through scheduling variable:		
• Period length	$1X_S$	347
• Rotation of classes	$1X_S$	347
• Class size	$1X_S$	347
• Grouping of students	$1X_S$	347
• Time allotments	$1X_S$	347

6.5 continued

	N	SOURCE
• Staffing	$1X_S$	347
• Meeting patterns	$1X_S$	347
• Number of subjects studied by a student	$1X_S$	347
• Required subjects	$1X_S$	347

7.0 School Behaviors of Administrators

7.1 Having a principal who sets the pattern of work for his staff by his own actions (comes to work early; stays late; meets deadlines promptly; fulfills obligations, etc.):		
• Results in staff accepting same responsibility	$2X_S$	326,370
7.2 An administrator who makes provisions for resolving grievances increases the morale of his staff	$2X_S$	357,370
7.3 Principals who must deal with behavior of non-compliant teachers reach farther and farther toward the source of legal power (superintendent, school board, court) for more power to insure compliance	$1X_S$	339
7.4 An administrator who takes precautions to ensure that people in his organization perform in ways to achieve stated goals will:		
• Use more general and impersonal rules	$1X_S$	317
• Which will cause a lowering of visibility of power relations between administrator and organization members	$1X_S$	317

7.0 continued

	N	SOURCE
7.5 a. A principal who is aware that a teacher or teachers with whom he interacts represent (s) a primary group or linked primary groups:		
• Will reexamine his use of legal power to force compliance	$1X_S$	339
• Will reexamine policies, regulations, or traditions in terms of current usefulness	$1X_S$	339
• Will change policies, regulations, or traditional modes of behavior which the group designates as unfair and objects to or refuses to comply with	$1X_S$	339
b. As a principal works with a group of teachers who consciously seek to strengthen their social power, his decision-making will be increasingly influenced by their demands	$1X_S$	339
7.6 The greater the interpersonal skills of the principal (resolves discipline problems, handles parental complaints, obtains parent cooperation, etc.) the greater the degree of professional leadership:		
• Ascribed to him by his teachers	$1X_F$	319,320
• Ascribed to him by his superiors	$1X_F$	319,320

7.0 continued

	N	SOURCE
7.7 Leaders who rate high in both initiating structure (getting the job done) and consideration (concern for social needs of workers) effect favorable:		
• Changes in attitudes of group members toward each other	$1X_F$	326
• Changes in group characteristics toward harmony, intimacy, procedural clarity	$1X_F$	326
7.8 Leadership behavior is significantly related to situational factors such as:		
a. In a large group, a leader:		
• Becomes more impersonal	$1X_F$	326
• Enforces rules and regulations firmly and impartially	$1X_F$	326
b. In small groups, a leader:		
• Treats individuals personally	$1X_F$	326
• Makes exceptions to rules	$1X_F$	326

Group V. <u>The Organizational Climate of the School</u>

<u>Directly Related to Pupil Outcomes</u>

No data have been uncovered which directly relates the organizational climate of the school with the six pupil objectives:

- Knowledge
- Tool Skills

	N	SOURCE
• Social Emotional Development		
• Self-Direction		
• Cognitive Development		
• Attitudes Toward and Interest in School		

Not Directly Related or Correlates

1.0 Open Climate

1.1 Teachers:

• Have high morale	$1X_S$	326
• Maintain friendly relationships among staff members	$1X_S$	326
• Work as a group to accomplish goals	$1X_S$	326
• Have high production	$1X_S$	326

1.2 Principal:

• Sets example for his teachers by his own work patterns	$2X_S$	326,370
• Assists teachers with problems	$2X_S$	326,370
• Shares leadership with teachers	$1X_S$	326
• Uses indirect method of control	$1X_S$	326

2.0 Autonomous Climate

2.1 Teachers:

• Choose own goals, achieve them quickly	$1X_S$	326
• Work as a group to accomplish goals	$1X_S$	326

2.1 continued

	N	SOURCE
• Express satisfaction in their work	$1X_S$	326
2.2 Principal:		
• Sets an example for his teachers by his work patterns	$1X_S$	326
• Uses many facilitating procedures for routine matters	$1X_S$	326
• Runs organization as a business	$1X_S$	326
• Does not check up on teachers	$1X_S$	326
3.0 Familiar Climate		
3.1 Teachers:		
• Achieve little task accomplishment	$1X_S$	326
• Express high personal-needs satisfaction	$1X_S$	326
• Have many close friends among staff	$1X_S$	326
• Try to tell each other what to do	$1X_S$	326
3.2 Principal:		
• Gives little or no direction by word or example	$1X_S$	326
• Does not criticize teachers	$1X_S$	326
• Uses many facilitating procedures for routine matters	$1X_S$	326
4.0 Paternal Climate		
4.1 Teachers:		
• Split into factions; do not work together	$1X_S$	326
• Express little satisfaction (task accomplishment or social needs)	$2X_S$	326,370

4.0 continued

	N	SOURCE
4.2 Principal:		
• Does not provide an example for his teachers	$1X_S$	326
• Constantly checks, monitors, tells teachers what to do	$1X_S$	326
• Does all scheduling, class changing, etc., personally	$1X_S$	326
• Does most routine reports, etc., himself	$1X_S$	326
5.0 Controlled Climate		
5.1 Teachers:		
• Work hard, get tasks done	$1X_S$	326
• Express satisfaction with school re task accomplishment	$1X_S$	326
• Have few friendly relationships among staff	$1X_S$	326
• Have excessive amounts of paper work and routine reports	$1X_S$	326
5.2 Principal:		
• Is dominating and directive	$1X_S$	326
• Communicates through directives rather than personal confrontations	$1X_S$	326
• Emphasizes work production	$1X_S$	326
• Delegates few responsibilities; does not share leadership	$1X_S$	326
• Deemphasizes social-needs satisfactions	$1X_S$	326

	N	SOURCE
6.0 Closed Climate		
6.1 Teachers:		
• State no satisfactions (task or social-needs)	$2X_S$	326,370
• Do not work well together	$1X_S$	326
• Do not feel sense of purpose	$1X_S$	326
• Have many routine reports, etc.	$1X_S$	326
• Have above average turnover	$1X_S$	326
6.2 Principal:		
• Does not set an example by working hard himself	$1X_S$	326
• Emphasizes production, task accomplishment	$1X_S$	326
• Uses inflexible rules and regulations	$1X_S$	326
• Gives no decision-making power to teachers	$1X_S$	326
7.0 No statistically significant relationship has been found between the type of organizational climate of a school and the principal's:		
• Age	$1X_{FNE}$	308
• Sex	$1X_{FNE}$	308
• Marital Status	$1X_{FNE}$	308
• Number of years of formal education	$1X_{FNE}$	308
• Number of years of administrative experience	$1X_{FNE}$	308
• Level of empathy	$1X_{FNE}$	308

TALLY OF RESEARCH FINDINGS: SCHOOL ADMINISTRATION (1)

PERSONAL CHARACTERISTICS OF PRINCIPALS	Preparation for Decision (Factor X)*		Volume of Work (Factor Y)*		Exchanging Information (Factor A)*		Discussing (Factor B)*		Complying (Factor C)*		Analyzing (Factor D)*		Maintaining Relationships (Factor E)*		Organizing Work (Factor F)*		Responding to Outsiders (Factor G)*		Directing Others (Factor H)*		(Ascribed) Executive Professional Leadership **		Organizational Climate of School ***	
	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F
1.0 Age																								
Under 40		Nr		Nr						+						Nr								Nr
41-50		Nr		Nr												Nr								Nr
Over 50		Nr		Nr												Nr		+		+				Nr
2.0 Sex																								
Male		Nr		Nr						+		+				Nr								Nr
Female		Nr		Nr		+								+		Nr		+						Nr
3.0 Marital Status																								Nr
4.0 Intelligence & Cognitive Abilities																								
General Intelligence																Nr		-		-				
Verbal Fluency		+		+		+		Nr								Nr								
Reasoning & Association		+						Nr		+		+		-		Nr								
Learns Quickly		+		+				Nr								Nr				-				

\+ = Positive correlation
\- = Negative correlation
Nr = No relation

* Hemphill, Griffiths, Fredericksen
** Gross
*** Halpin & Croft

TALLY OF RESEARCH FINDINGS: SCHOOL ADMINISTRATION (2)

PERSONAL CHARACTERISTICS OF PRINCIPALS (2)	Preparation for Decision (Factor X)*		Volume of Work (Factor Y)*		Exchanging Information (Factor A)*		Discussing (Factor B)*		Complying (Factor C)*		Analyzing (Factor D)*		Maintaining Relationships (Factor E)*		Organizing Work (Factor F)*		Responding to Outsiders (Factor G)*		Directing Others (Factor H)*		(Ascribed) Executive Professional Leadership **		Organizational Climate of School *	
	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F
5.0 Personality Traits																								
Mature, Confident, Sociable		Nr		Nr		+		+																
Unstable, Insecure		Nr		Nr						+				+		+								
Dominant, Practical		Nr		Nr								+												
Submissive, Naive, Shy		Nr		Nr														+						
Sober, Stable		Nr		Nr																+				
6.0 Interests & Attitudes Like																								
School Superintendents				Nr		+				-				+		-				-				
Public Administrators				Nr				+				+				-		-						
Lawyers		+		Nr		+								+				-		-				
Policemen				Nr		-		+		+		+												
Psychologists		+		Nr		+										-								
7.0 Knowledge																								
General Culture		+		+		+		Nr		+		+				Nr		-		-				
Science, Mathematics		+ Sci		+ Sci				Nr		+		+ Sci		-		Nr		-						
8.0 Religion																								

TALLY OF RESEARCH FINDINGS: SCHOOL ADMINISTRATION (3)

PRINCIPALS' GENERAL AND BACKGROUND KNOWLEDGE (Training, Skills, Experience, Ratings)	Preparation for Decision (Factor X)*		Volume of Work (Factor Y)*		Exchanging Information (Factor A)*		Discussing (Factor B)*		Complying (Factor C)*		Analyzing (Factor D)*		Maintaining Relationships (Factor E)*		Organizing Work (Factor F)*		Responding to Outsiders (Factor G)*		Directing Others (Factor H)*		(Ascribed) Executive Professional Leadership **		Organizational Climate of School	
	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F
1.0 Background Knowledge																								
General Culture		+ Hi		+ Hi		+ Hi		Nr		+ Hi		+ Hi		Nr		Nr		- Hi		- Hi				
Science, Mathematics		+ ScHi		+ ScHi				Nr		+ Hi		+ Hi		- Hi		Nr		- Hi		+				
2.0 Training in Ed. (# of S.H.)																						-		Nr
Undergraduate																						-		Nr
Graduate																						-		Nr
Administration																								
3.0 Knowledge: Teaching Practices		+ Hi		+ Hi		+ Hi		Nr								Nr								
4.0 Knowledge: Administrative Practices		+ Hi		+ Hi		+ Hi		Nr								Nr		- Hi						
5.0 Experience: Teaching (Number of Years)		Nr		Nr												Nr		+ 15to 19		+ 20		Nr		Nr
6.0 Experience: Administration (Number of Years)		Nr		Nr						+ -5		+ 6to 15										Nr		Nr
7.0 Ratings by Teachers		Nr		Nr		+'		-'		-'		-'		+"		+'		Nr		-'				
8.0 Ratings by Superiors		+'		Nr		+"		-'		-'		-'		Nr		-'		-'		Nr				
9.0 Region of Work																						Nr		
10.0 Salary																						Nr		

Hi = High Score on Test
+' = High Rating
+" = Very High Rating
-' = Low Rating
-" = Very Low Rating

TALLY OF RESEARCH FINDINGS: SCHOOL ADMINISTRATION (4)

PRINCIPALS' ATTITUDES TOWARD AND RELATIONSHIPS WITH OTHERS	Teachers' Self-Rating of Effectiveness		Confidence in Principal's Leadership		Teachers' Personal Satisfaction		(Ascribed) Executive Professional Leadership		Preparation for Decision (Factor X)*		Organizational Climate of School ***		Ratings Received by Superintendents (Successful)		Agreement: Principal's Self-Rating with Teachers' Ratings		Motivation for Self-Improvement		Willingness to Risk Failure		Peer Level Feedback & Respect		Conformity to Judgement of Others		Encouragement of Parent Participation		Stress on Management vs Stress on Change		Stress Interpersonal Relations	
	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F
1.0 Pupils										+																				
Valued Educational Needs of																														
Level of Empathy												Nr																		
Acceptance of others												Nr																		
2.0 Teachers																														
Level of Empathy												Nr																		
Acceptance of Others												Nr																		
Stated Consideration For																-														
T sees P "Needs-oriented"		+																												
T sees P "Task-oriented"		-		-		-																								
T sees P Balanced in Orientation		+		+		+																								
3.0 Self and Other Administrators																														
High self-rating as "Manager"								-																						
High self-rating in "Leadership"								+																						
Perception of own Leadership Style		Nr		Nr		Nr																								
"Principal Team"																		+2		+		+2								
Second in Command																														
Number of Assistants								Nr																						

PRINCIPALS' ATTITUDES TOWARD AND RELATIONSHIPS WITH OTHERS	Teachers' Self-Rating of Effectiveness		Confidence in Principal's Leadership		Teachers' Personal Satisfaction		(Ascribed) Executive Professional Leadership	Preparation for Decision (Factor X)*		Organizational Climate of School**		Ratings Received by Superintendents (Successful)		Agreement: Principal's Self-Rating With Teachers Ratings		Motivation for Self-Improvement		Willingness to Risk Failure		Peer Level Feedback and Respect		Conformity to Judgement of Others		Encouragement of Parent Participation		Stress on Management vs Stress on Change		Stress Interpersonal Relations	
	S	F	S	F	S	F	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F
4.0 Superiors																															
Endorse Educational Effort							+																								
Give Social Support							+																								
Share Authority							+																								
High Rating-Leadership							+																								
5.0 Education																															
Motivation: Service							+																								
Motivation: Upward Mobility							Nr																								
Motivation: Increased Salary							Nr																								
Management Duties Stressed							-																								
Management Duties - Not Important							-																								
Active Professional Interest							+3																								
Devote Extra Time to Work							+																								
6.0 Community																															
Low Socio-Economic Status																										+					
Upper or Middle Class																										-					
Civic Participation							+2																								
"Insiders" Appointed																												+		+	
"Outsiders" Appointed																												-		-	

ROLE FUNCTIONS AND SCHOOL BEHAVIORS (See School Organization for Scheduling, Grouping, Teacher Assignment)	Teacher Effectiveness		Curriculum Change Improvement		Teacher Satisfaction High Morale		Staff Cooperation		(Ascribed) Executive Professional Leadership **		Communication and Feedback		Task Accomplishment Group, Individual		Acceptance as Leader by Group		Teacher Responsibility		Goals of Education	
	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F
1.0 Democratic Leader	+2	+	+3	+3	+4		+			+3	+2						+2			
2.0 Authorization Leader					-2			-					-3		-					
3.0 Paternal Leader					-2												-	-		
4.0 Laissez-Faire Leader					-			-2					-2	-			-	-		
5.0 Supervisory Role																				
Change based on Evaluation			+																	
Puts Staff at Ease															+					
Promotes Job Satisfaction					+															
Encourages Self-Evaluation			+																	
Uses Checklist to Evaluate	-																			
Curriculum Consultants	+		+3								+2									
6.0 Administrative Role																				
Segregation of Pupils (Academic)																				-
(Behavior)																				-
Managerial Support - Teachers										+										
Social Support - Teachers										+										
Support during Conflict-Teachers										+										
Scheduling Practices																			+9	

ROLE FUNCTIONS AND SCHOOL BEHAVIORS	Teacher Responsibility		Teacher Morale		(Ascribed) Executive Professional Leadership		Group Attitudes & Characteristics		Personal Treatment		Impersonal Rules & Relationships		Use of Legal Power		Policy Change	
7.0 School Behaviors	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F
Sets Work Pattern by Own Example	+2															
Resolves Grievances			+2													
Goal-Oriented											+2					
Needs-Oriented																
Goals and Needs								+2								
With Primary Groups													+2		+3	
Interpersonal Skills High					+2											
In Large Group																
In Small Group										+2		+2				

TALLY OF RESEARCH FINDINGS: SCHOOL ADMINISTRATION (8)

ORGANIZATIONAL CLIMATE OF THE SCHOOL	Teacher Morale		Teacher Satisfaction		Goal Accomplishment		Group Cooperation		Group Cohesiveness		Hindrance ("Busy Work")		Teacher Turnover		Shared Leadership & Decision Making		Friendly Staff Relations		Principal Sets Work Pattern		Principal Helps With Teacher Problems/W		Direct Control		Indirect Control		Businesslike Principal	
	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F	S	F
1.0 Open Climate	+				+2				+						+		+		+2		+2				+			
2.0 Autonomous Climate			+		+		+												+						-		+	
3.0 Familiar Climate			+		-		-										+		-		+		-					
4.0 Paternal Climate			-2						-						-				-				+				+	
5.0 Controlled Climate			+ -		+						+				-		-				-		+				+2	
6.0 Closed Climate			-2		-		-		-		+		+ Hi		-				-				+				+	

SUMMARY OF
TEACHER CHARACTERISTICS, ROLE FUNCTIONS AND CLASSROOM BEHAVIORS

In reviewing the raw data pertaining to the teacher sub-system the following four major teacher variable categories emerged:

Group I-Teacher Traits, Personal Characteristics and Out-of-Class Behaviors

A. Age
B. Sex
C. Marital Status
D. Intelligence
E. Emotional Adjustment and Stability
F. Attitudes (general)
G. Childhood and Adolescent Experiences
H. Interests and Activities (out-of-school)
I. Cultural Background vs. Teacher Training
J. Socio-economic status
K. Influences Affecting the Teacher's Choice of Entering Teaching

Group II-Teacher Training, Knowledge, Skills, Experience, Ratings and Salary

A. Training and Knowledge
   A_1 - Methods Courses, Psychology Courses
   A_2 - Subject Matter (specific content area such as Mathematics, Science, etc.)
B. Recency of Training
C. Type of College Attended (University vs. small college)
D. Skills
E. Grade Level
F. Subject Specialization
G. Interest in Subject Matter
H. Number of Years of Teaching Experience
I. Ratings of Teacher
   I_1 - By supervisors or other personnel
   I_2 - By self
   I_3 - Indirectly via pupil achievement scores
J. Inservice Training

Group III-Teacher Attitudes

A. Attitudes toward Pupils
B. Attitudes toward Administrators
C. Attitudes toward Teachers
D. Attitudes toward Classroom Practices
E. Combined Attitudes toward Education

Group IV- Teacher Role Functions and Classroom Behaviors
(in terms of personality traits displayed in classroom)

A. Modes of Presentation
   1. Direct Modes of Presentation
      These encompass autocratic, highly-controlling, direct (Flanders), dominative, teacher-centered, lecture and highly structured.
   2. Indirect Modes of Presentation
      These encompass democratic, low-controlling, indirect (Flanders) integrative, learner-centered, discussion and responsive (G.Miller).
   3. Laissez-Faire Mode of Presentation
   4. Logical Mode of Presentation (B.O.Smith)

B. Goal Statement
   1. Clear Goals
   2. Unclear Goals
   3. Combinations
      a. Goals with Pupil Valence
      b. Goals with Mode of Presentation
      c. Goals with Pupil Personality Type

C. Verbal Emphasis

D. Achievement Grouping of Pupils

E. Discipline
   1. Clarity
   2. Firmness

F. Rating of Pupils

G. Teacher Classroom Behaviors (Teacher personality traits displayed in class)
   1. The Self-Controlling Teacher (orderly, well-planned, dominant, dislikes change) with:
      a. all personality types of pupils
      b. uniform groups of striving pupils
      c. uniform groups of conforming pupils
      d. uniform groups of opposing pupils
      e. uniform groups of wavering pupils
      f. children over 12 years of age
      g. gifted children
      h. underachievers

   2. The Turbulent Teacher (critical, verbally aggressive, impulsive, shows high variability in classroom behavior) with:
      a. all personality types of pupils
      b. uniform groups of striving pupils
      c. uniform groups of conforming pupils
      d. uniform groups of opposing pupils
      e. uniform groups of wavering pupils
      f. subject area

3. The Fearful Teacher (displays insecurity and fear) with
   a. all personality types of pupils
   b. uniform groups of striving pupils
   c. uniform groups of conforming pupils
   d. uniform groups of opposing pupils
   e. uniform groups of wavering pupils
   f. subject area
4. The Warm, Friendly, Understanding Teacher
5. The Responsible, Businesslike, Systematic Teacher
6. The Stimulating, Imaginative Teacher
7. A Combination of Two Teachers with Different Personality Types (turbulent and self-controlling teachers) with All Personality Types of Children.

I. Teacher Traits, Personal Characteristics and Out-of-Class Behaviors

Directly Related to Pupil Objectives

1.0 Teacher traits, personal characteristics and out-of-class behaviors such as age, sex, marital status, intelligence, emotional adjustment and stability, general attitudes, out-of-school interests and activities, childhood and adolescent experiences, cultural background and socio-economic status have no direct effect upon the six educational objectives in terms of:

- Pupil's knowledge
- Tbol skills
- Social-emotional adjustment
- Self-direction
- Pupil's use of cognitive processes
- Pupil's attitudes towards and interest in schooling

	N	SOURCE
Not Directly Related to Pupil Objectives		
The data gathered in this category appears to indicate that:		
1.0 The intelligence of the teacher does have a slight positive effect upon his role functions	$2X_F$	424,471
2.0 The positive-emotional adjustment and stability of the teacher increases his social effectiveness with pupils	$2X_F$	447,471
Correlates		
1.0 Age of Teacher (both elementary and secondary teachers)		
1.1 Teachers under 30 demonstrate:		
• low verbal skills (word recognition and use of verbal analogies)	$1X_F$	471
• More child-centered and permissive educational viewpoints	$1X_F$	471

1.0 continued	N	SOURCE
1.2 Teachers between 30-39 years of age demonstrate:		
• a high degree of warm, friendly, understanding classroom behaviors	$1X_F$	471
• a high degree of responsible, businesslike, systematic classroom behaviors	$1X_F$	471
1.3 Teachers between 40-54 years of age demonstrate:		
• low emotional adjustment and stability	$1X_F$	471
• a high degree of stimulating, imaginative classroom behaviors	$1X_F$	471
1.4 Teachers over 55 years of age demonstrate:		
• low emotional adjustment and stability	$1X_F$	471
• a low degree of warm, friendly, understanding, classroom behaviors	$1X_F$	471
• a low degree of stimulating, imaginative classroom behaviors	$1X_F$	471
2.0 <u>Sex of Teacher</u>		
2.1 Male teachers, both on the elementary and secondary levels, demonstrate greater emotional adjustment than female teachers	$1X_F$	471
2.2 Male teachers on the elementary level demonstrate:		
• greater positive attitudes towards pupils than female teachers	$1X_F$	471
• less responsible, businesslike, systematic classroom behaviors than female teachers	$1X_F$	471

2.0 continued

	N	SOURCE
2.3 Male teachers on the secondary level demonstrate:		
• more traditional, teacher-centered educational viewpoints	$1X_F$	471
2.4 Female teachers, both on the elementary and secondary levels demonstrate:		
• greater participation in leisure-time activities and interests	$1X_F$	471
• greater verbal skills (word recognition and use of verbal analogies)	$1X_F$	471
2.5 Female teachers on the secondary level demonstrate:		
• greater verbal skills than their male colleagues	$1X_F$	471
• more positive attitudes toward pupils than their male colleagues	$1X_F$	471
3.0 <u>Marital Status of Teacher</u>		
3.1 Married elementary teachers demonstrate:		
• greater emotional adjustment and stability than single elementary teachers	$1X_F$	471
• greater participation in leisure-time activities and interests	$1X_F$	471
• more positive attitudes toward pupils	$1X_F$	471
• more permissive, child-centered educational viewpoints	$1X_F$	471

3.1 continued	N	SOURCE
• a high degree of warm, friendly, understanding classroom behaviors	$1X_F$	471
• a high degree of stimulating, imaginative classroom behaviors	$1X_F$	471
• a high degree of responsible, businesslike classroom behaviors	$1X_F$	471
3.2 Married secondary teachers demonstrate:		
• greater emotional stability than single secondary teachers	$1X_F$	471
• greater participation in leisure-time activities and interests	$1X_F$	471
• a high degree of stimulating, imaginative classroom behavior	$1X_F$	471
3.3 Married teachers on both levels (one might conclude from the above data) demonstrate:		
• greater emotional adjustment and stability	$1X_F$	471
• greater participation in leisure-time activities and interests	$1X_F$	471
• a high degree of stimulating, imaginative classroom behaviors	$1X_F$	471
4.0 Childhood and Adolescent Experiences of Teacher (playing school, taking care of young children) are correlated with:		
• positive attitudes toward pupils	$1X_F$	471
• positive attitudes toward teachers	$1X_F$	471
• positive attitudes toward administrators	$1X_F$	471

3.1 continued

	N	SOURCE
• more permissive, child-centered educational viewpoints	$1X_F$	471
• a high degree of warm, friendly, understanding classroom behaviors	$1X_F$	471
• a high degree of stimulating, imaginative classroom behaviors	$1X_F$	471
• a high degree of responsible, businesslike, systematic classroom behaviors	$1X_F$	471
5.0 <u>Teachers Participating in Many Out-of-School Activities and Interests</u> demonstrate:		
• greater emotional adjustment and stability	$1X_F$	471
• positive attitudes towards pupils	$1X_F$	471
• positive attitudes toward teachers	$1X_F$	471
• positive attitudes toward administrators	$1X_F$	471
• permissive, child-centered educational viewpoints	$1X_F$	471
• a high degree of warm, friendly, understanding classroom behaviors	$1X_F$	471
• a high degree of stimulating, imaginative classroom behaviors	$1X_F$	471
• a high degree of responsible, businesslike and systematic classroom behaviors	$1X_F$	471

	N	SOURCE
6.0 Teachers-Active Participation in Religious Activities (teaches Sunday School, works with church in some capacity) is correlated with:		
• a high degree of warm, friendly, understanding classroom behavior	$1X_F$	471
7.0 Influences Affecting Teacher's Choice of Entering Teaching is correlated with his use of self-enhancing responses		
• teachers who stated that their choice was made on the basis of obtaining "satisfying school experience", "opportunity for pupil service", and "desire for intellectual growth" demonstrated excessive use of self-enhancing responses	$1X_F$	471
• teachers who state that their choice was made on the basis of obtaining "favorable prospects for advancement" demonstrated avoidance of use of self-enhancing responses	$1X_F$	471

II Teacher's Training, Knowledge, Skills, Experience, Ratings and Salary Directly Related to Pupil Objectives

1.0 Teacher's Training and Knowledge

1.1 Teachers, who have training and knowledge in the general field of education (methods courses, courses in psychology) and in subject matter (a specific field of content-English or Science or Mathematics), are found to have no significant effects upon:

4

1.1 continued

	N	SOURCE
• pupil's knowledge as measured by achievement tests	$2X_F$	424,471
• pupil's tool skills as measured by achievement tests	$2X_F$	424,471
1.2 With teachers, who lack training and knowledge in the general field of education (methods courses, psychology courses) and in subject matter (a specific content area) and <u>who use a indirect mode</u> of presentation, pupils demonstrate:		
• lower achievement in knowledge	$1X_F$	405
• lower achievement in tool skills	$1X_F$	405
2.0 <u>Teacher's Interest in Subject Matter</u>		
2.1 The teacher's interest in subject matter results in:		
• increased achievement in pupil's knowledge	$1X_F$	424
• increased achievement in pupil's tool skills	$1X_F$	424
3.0 <u>Teacher's Ratings</u>(by supervisors)		
3.1 Pupils whose teachers were rated <u>low</u> by their supervisors demonstrated:		
• increased achievement in knowledge as measured by achievement tests	$2X_F$	424
• increased achievement in tool skills as measured by achievement tests	$2X_F$	424

	N	SOURCE
Not Directly Related to Pupil Objectives		
1.0 Teacher's Training and Knowledge		
1.1 The teacher's earlier scholarship (over-all achievement in high school or college including practical teaching courses) has no significant effect upon his role functions	$1X_F$	402
1.2 The teacher's professional knowledge as measured by the National Teacher Examination has a positive effect upon his role functions.	$1X_F$	424
1.3 The teacher's recency of training (within the past four years) has no effect upon his role functions.	$1X_F$	471
2.0 Teacher's Skills and Abilities		
2.1 The teacher's high ideational fluency (score on divergent thinking) positively affects the supervisor's ratings of the teacher	$1X_F$	437
2.2 The teacher's high creative ability results in a greater display of positive and negative emotions related to his pupils in the classroom	$1X_F$	391
3.0 Teacher's Inservice Training		
3.1 Teachers receiving inservice training under a learner-centered climate demonstrate:		
• increased use of cognitive processes	$1X_F$	462
• increased knowledge in subject matter	$1X_F$	462
• positive attitudes towards pupils	$1X_F$	462

	N	SOURCE
Correlates		
1.0 Number of years of teacher training, recency of training and type of college attended		
1.1 The number of years spent in teacher training, four, six or more, has no effect upon the teacher personality traits (warm, friendly, understanding, responsible, stimulating) displayed in the classroom.	$1X_F$	471
1.2 Recency of college training or additional coursework within the past four years is correlated with:		
• greater emotional adjustment and stability of teacher	$1X_F$	471
• positive attitudes toward pupils	$1X_F$	471
• positive attitudes toward teachers	$1X_F$	471
• positive attitudes toward administrators	$1X_F$	471
• permissive, child-centered educational viewpoints	$1X_F$	471
• a warm, friendly, understanding pattern of classroom behavior	$1X_F$	471
• a responsible, businesslike, systematic pattern of classroom behavior	$1X_F$	471
• a stimulating, imaginative pattern of classroom behavior	$1X_F$	471

1.0 continued

	N	SOURCE
1.3 Teachers attending large universities rather than small colleges demonstrate:		
• no difference in type or amount of time spent in leisure-time activities	$1X_F$	471
• more permissive, child-centered educational viewpoints	$1X_F$	471
• more stimulating, imaginative classroom behaviors	$1X_F$	471
2.0 <u>Level-Elementary or Secondary Grade Level</u>		
2.1 Elementary teachers demonstrate permissive, child-centered educational viewpoints while secondary teachers demonstrate traditional, academic-centered educational viewpoints	$1X_F$	471
2.2 Elementary teachers of grades K-3 compared with elementary teachers of grades 4-6 demonstrate:		
• greater emotional adjustment and stability	$1X_F$	471
• more time spent in leisure-time activities	$1X_F$	471
• more time spent in professional related activities	$1X_F$	471
2.3 Elementary teachers compared with secondary teachers in general demonstrate:		
• more time spent in leisure-time and professional related activities	$1X_F$	471

	N	SOURCE
3.0 Subject Specialization		
Subject specialization is related to the teacher's mode of presentation (direct modes or indirect modes), classroom behaviors in terms of personality traits displayed in the classroom and his educational viewpoints.		
3.1 Teachers of practical courses, applied courses and of the humanities demonstrate:		
• more indirect modes of presentation	$2X_F$	479,480
• more relaxed, warm classroom behaviors	$2X_F$	471,479
• more permissive, child-centered educational viewpoints	$2X_F$	471,479
3.2 Teachers of Science and Mathematics demonstrate:		
• more direct modes of presentation	$2X_F$	479,480
• more nervous and critical classroom behavior	$2X_F$	471,479
• more traditional, teacher-centered academic educational viewpoints	$2X_F$	471,479
4.0 Subject Specialization Combined with Other Variables		
4.1 Subject specialization and Grade Level		
Secondary science teachers in general displaying the greatest emotional adjustment and stability	$1X_F$	471

4.0 continued

	N	SOURCE
4.2 Subject Specialization, Grade Level and Age		
4.2a Elementary teachers who are specialists in both mathematics and science and teach both subjects and who are 40-54 years of age demonstrate the most responsible, businesslike systematic classroom behaviors	$1X_F$	471
4.2b Elementary teachers who are specialists in English and Social Studies and teach both subjects and who are over 40 years of age demonstrate a high degree of responsible, businesslike, systematic classroom behaviors	$1X_F$	471
4.3 Subject Specialization, Grade Level and Sex		
4.3a Elementary women science teachers demonstrate the lowest degree of warm, friendly, understanding classroom behaviors	$1X_F$	471
4.3b Secondary women English teachers demonstrate low emotional adjustment and stability	$1X_F$	471
4.3c Secondary women English and Social Studies teachers demonstrate a high degree of warm, friendly, understanding classroom behaviors	$1X_F$	471

4.3 continued

	N	SOURCE
4.3d Secondary women Social Studies and Science teachers demonstrate a high degree of stimulating imaginative classroom behaviors	$1X_F$	471
4.3e Secondary women Mathematics teachers demonstrate the <u>greatest</u> degree of responsible, businesslike systematic classroom behaviors	$1X_F$	471

4.4 <u>Subject Specialization, Grade Level and Marital Status</u>

The combination of subject specialization, grade level taught and marital status appear to be related to teacher personality traits displayed in the classroom and the teacher's emotional adjustment and stability

4.4a <u>Elementary, single</u> Mathematics-Science specialists who teach both content areas demonstrate:

• responsible, businesslike, systematic classroom behaviors	$1X_F$	471
• stimulating, imaginative classroom behaviors	$1X_F$	471

4.4b <u>Elementary, single,</u> English-Social Studies specialists who teach both content areas demonstrate:

• responsible, businesslike, systematic classroom behaviors	$1X_F$	471

4.4 continued

	N	SOURCE
4.4c Elementary, married, Mathematics-Science specialists who teach both content areas demonstrate:		
• high emotional adjustment and stability	$1X_F$	471
4.4d Elementary, married, English-Social Studies specialists, who teach both content areas demonstrate:		
• high emotional adjustment and stability	$1X_F$	471
• warm, friendly, understanding classroom behaviors	$1X_F$	471
4.4e Secondary, single English-Social Studies specialists and Mathematics-Science specialists demonstrate:		
• responsible, businesslike, systematic classroom behaviors	$1X_F$	471
4.4f Secondary, single Mathematics-Science specialists demonstrate:		
• warm, friendly, understanding behaviors	$1X_F$	471
• stimulating, imaginative classroom behaviors	$1X_F$	471
4.4g Secondary, married teachers of English and Social Studies demonstrate:		
• warm, friendly, understanding classroom behaviors	$1X_F$	471
• stimulating, imaginative classroom behaviors	$1X_F$	471

	N	SOURCE
5.0 The Number of Years of Teaching Experience		
The number of years of teaching experience related to the teachers emotional adjustment and stability, his educational viewpoints and the personality traits he displays in the classroom.		
5.1 Elementary teachers with less than 5 years of experience demonstrate:		
• high emotional adjustment and stability	$1X_F$	471
• permissive and child-centered educational viewpoints	$1X_F$	471
5.2 Elementary teachers with 5 to 9 years of experience demonstrate:		
• warm, friendly, understanding classroom behaviors	$1X_F$	471
• responsible, businesslike, systematic classroom behaviors	$1X_F$	471
• stimulating, imaginative classroom behaviors	$1X_F$	471
5.3 Elementary teachers with 10 or more years of experience demonstrate:		
• traditional, teacher-centered academic educational viewpoints	$1X_F$	471

5.0 continued

	N	SOURCE
5.4 Secondary teachers with 15-19 years of experience demonstrate:		
• traditional, teacher-centered academic educational viewpoints	$1X_F$	471
• warm, friendly, understanding classroom behaviors	$1X_F$	471
• stimulating, imaginative classroom behaviors	$1X_F$	471
• responsible, businesslike, systematic classroom behaviors	$1X_F$	471
6.0 <u>Ratings of Teachers</u>		
6.1 Supervisor's high ratings of teachers were positively correlated with:		
• teacher's positive attitudes towards pupils, teachers and administrators	$2X_F$ $1X_F$	471,472 471
• teacher's traditional, teacher-centered educational viewpoints	$1X_F$	471
6.2 Teachers' high self-ratings were positively correlated with:		
• teachers' positive attitudes toward pupils, teachers, administrators	$1X_F$	471
• teachers' permissive, pupil-centered educational viewpoints	$1X_F$	471
• warm, friendly, understanding classroom behaviors	$1X_F$	471
• responsible, businesslike, systematic classroom behaviors	$1X_F$	471
• stimulating, imaginative classroom behaviors	$1X_F$	471

	N	SOURCE
7.0 Teachers' Ratings of Pupils		
7.1 Teachers' ratings of pupils were positively correlated with the pupils' intelligence (I.Q.scores)	$1X_F$	106
8.0 Teachers' Salary		
8.1 Teachers receiving high salaries demonstrate:		
• increased participation in leisure-time activities	$1X_F$	471
• increased participation in professional related activities	$1X_F$	471

III Teacher Attitudes Toward Pupils, Teachers, Administrators and Classroom Practices

Directly Related to Pupil Objectives

1.0 Positive Teacher Attitudes toward Classroom Practices and Other Teachers		
Pupils, whose teachers hold positive attitudes toward classroom practices and other teachers, demonstrate:		
• greater achievement in knowledge	$2X_F$	402,424
• greater achievement in tool skills	$2X_F$	402,424

Not Directly Related to Pupil Objectives

The independent variables grouped under Teacher Attitudes Toward Pupils, Teachers, Administrators and Classroom Practices which were found to be not directly related to pupil objectives within the scope of the studies analyzed to date were all correlates.

	N	SOURCE
Correlates		
The correlates relative to Teacher Attitudes Toward Pupils, Teachers, Administrators and Classroom Practices appear as correlates and have been stated as found under Group I variables- Teachers' Traits, Personal Characteristics and Out-of-Class Behaviors as related to:		
• age of teacher	$1X_F$	471
• sex of teacher	$1X_F$	471
• marital status of teacher	$1X_F$	471
• childhood and adolescent experiences of teacher	$1X_F$	471
• out-of-school activities and interests of teacher	$1X_F$	471
A second group of correlates relative to Teacher Attitudes Toward Pupils, Teachers, Administrators and Classroom Practices appear as correlates and have been stated as Found under Group II variables- Teacher's Knowledge, Training, Skills, Experience, Ratings and Salary as related to:		
• recency of college training and additional course work	$1X_F$	471
• type of college teacher attended	$1X_F$	471
• grade level at which teacher instructs	$1X_F$	471
• number of years of teaching experience	$1X_F$	471
• ratings of teachers by self and supervisors	$1X_F$	471

	N	SOURCE
IV. Teacher Role Functions and Classroom Behaviors		
Directly Related to Pupil Objectives		
1.0 Teacher Role Functions-Direct Mode of Presentation		
1.1 With the teacher's use of a direct mode of presentation (autocratic, highly controlling, direct a la Flanders, dominative, teacher centered, highly structured) the pupils demonstrate:		
• less achievement in knowledge	$1X_S+1X_I+4X_F$	393,396,403,406, 424
• less achievement in tool skills	$1X_S+1X_I+4X_F$	393,396,403,406
• negative social-emotional adjustment	$1X_S+14X_F$	374,375,412,410, 403,408,405,406, 407,411,409,424, 451
• high dependence upon teacher and little self-direction	$1X_S+4X_F$	373,393,406,451, 497
• little use of cognitive processes other than recall	$1X_S+2X_F$	403,428,429,450
• negative pupil attitudes toward and interest in schooling	$1X_S+10X_F$	393,404,403,406, 451,497
1.2 The teacher's use of lecture when compared with his use of discussion resulted in no significant differences in pupil's achievement in factual knowledge	$16X_F$	413,459
1.3 The teacher's use of a direct mode of presentation with apathetic pupils results in negative pupil social-emotional adjustment	$1X_F$	442

	N	SOURCE
2.0 Teacher Role Functions-Indirect Mode of Presentation		
2.1 With the teacher's use of indirect modes of presentation, (democratic, loose and open structure, indirect (Flanders) integrative, learner-centered responsive (G. Miller), the pupils demonstrate:		
• increased achievement in knowledge	$1X_S+9X_F$	373,412,410,403, 408,411,409,450, 498
• increased achievement in tool skills	$1X_S+9X_F$	373,412,410,403, 408,411,409,450, 498
• positive social-emotional adjustment	$1X_S+8X_F$	373,375,404,412, 403,408,411
• increased self-direction	$6X_F$	375,412,410,403, 450
• increased use of cognition	$5X_F$	375,404,450,498
• positive attitudes toward and interest in schooling	$1X_S+10X_F$	375,393,450
3.0 Teacher Role Functions-Laissez-Faire Mode of Presentation		
3.1 The teacher's use of the laissez-faire mode of presentaton results in:		
• low social-emotional adjustment	$1X_F$	445
• increased self-direction	$1X_F$	445
• negative pupil attitude toward and interest in schooling	$1X_F$	445

	N	SOURCE
4.0 <u>Teacher Role Functions-Logical Mode of Presentation</u> (B.O. Smith)		
4.1 The teachers use of the logical mode of presentation (B.O. Smith) results in:		
• increased pupil achievement in factual knowledge	$1X_S$	477
• increased pupil knowledge of relationships and principles	$1X_S$	477
• increased pupil use of cognitive functions (critical thinking, generalization, analysis and concept formation)	$1X_S$	477
5.0 <u>Teacher Role Functions-Goal Statements</u>		
5.1 The teacher's statement of goals with clarity results in:		
• increased pupil achievement in knowledge	$1X_F$	373
• increased pupil achievement in tool skills	$1X_F$	373
• positive social-emotional adjustment	$3X_S$	373,404,405
• greater self-direction	$1X_S$	404
• increased use of cognitive processes	$1X_S$	406
• more positive attitudes toward and interest in schooling	$2X_S$	404,405

5.0 continued

	N	SOURCE
5.2 The teacher's presentation of subject matter lacking goal clarity and having a positive pupil valence, (pupil states that he likes the goal and that he is able to achieve it) results in:		
• more positive social-emotional adjustment	$1X_S$	405,406
• more positive pupil attitudes toward and interest in schooling	$1X_S$	405,406
5.3 When teachers do not provide reward or punishment and pupils view the goals negatively, this condition results in:		
• negative social-emotional adjustment	$1X_F$	406
• negative attitudes toward and interest in schooling	$1X_F$	406
5.4 The teacher's use of the more indirect mode of presentation accompanied by a statement of clear goals, results in:		
• increased pupil knowledge	$1X_F$	405
• increased pupil tool skills	$1X_F$	405
• increased self-direction	$1X_F$	405
6.0 <u>Teacher Role Functions-Teacher's Verbal Emphasis</u>(greater use of materials which require pupil verbal expression)		
6.1 The teacher's use of verbal emphasis results in:		
• increased pupil self-direction	$2X_F$	448,449,447
• more positive pupil attitude toward and interest in schooling	$1X_F$	448,449,447

	N	SOURCE
7.0 Teacher Role Functions-Achievement Grouping of Pupils		
7.1 The teacher's achievement grouping of pupils when applied to "high" or "average" pupils placed in homogeneous groups results in:		
• no change in pupil achievement in knowledge	$1X_F$	464
• no change in pupil achievement in tool skills	$1X_F$	464
7.2 When "low" pupils are placed in a heterogeneous group, the "low" pupils demonstrate:		
• increased achievement in knowledge	$1X_F$	378
• increased achievement in tool skills	$1X_F$	378
8.0 Teacher Role Functions-Disciplinary Actions		
8.1 The teacher's disciplinary actions when characterized by clarity and firmness results in:		
• increased pupil self-direction	$1X_F$	421,440

V. Teachers' Classroom Behaviors in Terms of Personality Traits Displayed in Classroom

1.0 Determining the personality traits of pupils and teachers and placing specific personality types of pupil with a specific type of teacher in the same classroom produced the following direct relations:

1.1 When taught by a self-controlling teacher (orderly, well-planned, dominant, highly-controlling, dislikes change), homogeneous groups of striving pupils, conforming pupils, opposing pupils, and wavering pupils, all demonstrate:

1.1 continued

	N	Source
• increased achievement in knowledge	$1X_F$	424
• all pupils except opposing pupils demonstrate increased achievement in tool skills	$1X_F$	424
• positive social-emotional adjustment	$1X_F$	424
• positive attitudes toward and interest in schooling	$1X_F$	424
1.2 When taught by a turbulent teacher (critical, verbally aggressive, impulsive, shows high variability) all personality types of pupils demonstrate:		
• the greatest gain in achievement in Science and Mathematics	$1X_F$	424
• the lowest gain in communication skills (reading, spelling)	$1X_F$	424
1.3 When taught by a turbulent teacher, (critical, verbally aggressive, impulsive, shows high variability in classroom behavior), the striving, conforming pupils demonstrate:		
• the highest gain in achievement (except in areas of reading and spelling)	$1X_F$	424
• more positive social-emotional adjustment	$1X_F$	424
• more positive attitudes towards and interest in schooling	$1X_F$	424

	N	Source
1.4 When taught by a turbulent teacher, the opposing and wavering children demonstrate:		
. a lower gain in achievement	$1X_F$	424
. an equally positive social-emotional adjustment as other children	$1X_F$	424
. an equally positive attitude toward school and schooling as other children	$1X_F$	424
1.5 It appeared that when opposing and wavering children were taught by the turbulent teacher, the children became less opposing and wavering and the teacher became less turbulent	$1X_F$	424
1.6 Striving children showed increased achievement with all teachers	$1X_F$	424
1.7 A combination of two teachers with different personalities (turbulent and self-controlling) with all personality types of children result in:		
. increased pupil achievement in knowledge	$1X_F$	424
. increased pupil achievement in tool skills	$1X_F$	424
1.8 With a fearful teacher, all personality types of pupils demonstrate:		
. low achievement in knowledge	$1X_F$	424
. low achievement in tool skills	$1X_F$	424
. less positive social-emotional adjustment	$1X_F$	424
. negative attitudes toward and interest in schooling	$1X_F$	424

	N	SOURCE
1.9 Pupils taught by warm, friendly, understanding teachers demonstrate positive socio-emotional adjustment	$1X_F$	471
Not Directly related to Behavioral Objectives, Teacher Role Functions and Classroom Behaviors		
1.0 Teacher's Mode of Presentation		
1.1 The mode of presentation which the teacher utilizes a greater percentage of the time, determines his degree of flexibility in adapting to change of mode	$1X_F$	405,406
1.2a Teachers utilizing direct modes of presentation, most of the time, demonstrate:		
• less flexibility, retain their old patterns	$1X_F$	405,406
1.2b Teachers utilizing indirect modes of presentation, most of the time demonstrate:		
• greater flexibility in terms of changing their modes of presentation	$1X_F$	405,406
• greater use of teacher-pupil planning	$1X_F$	405,406
• increased knowledge in subject matter by teacher	$1X_F$	405,406
2.0 Teacher's Goal Statements		
2.1 The goals stated by the teacher were not the same as the goals for which the teacher tested	$1X_F$	464
2.2 The teacher who began his lesson with a clear goal statement and an indirect mode of presentation tended to follow this with a more direct mode of presentation.	$1X_F$	405

	N	SOURCE
3.0 Teacher's Selection of Subject Matter		
3.1 When teachers cooperatively selected the specific subject matter content to be taught there was greater variability in the subject content taught and less variability in the mode of presentation	$1X_F$	459
4.0 Ability Grouping in Pupils		
4.1 When the same teacher taught homogeneous classes of pupils, one class of "low" ability pupils and one of "average" ability pupils or one of "high" ability pupils and one of "average" ability, the teacher's pattern of classroom verbal interaction was the same	$1X_F$	464
4.2 When the same teacher, taught homogeneous classes of different ability levels (as above) the teacher demonstrated a differentiation of operational cognitive goals for pupils; the less complex goals (knowledge, comprehension and application à la Bloom for the low groups and knowledge, comprehension, application and analysis, synthesis and evaluation for the high and average groups	$1X_F$	464
4.3 Teacher's Preference for a Certain Ability Group		
Teachers who expressed a preference for teaching a certain ability group, used a more indirect mode of presentation with the preferred class	$1X_F$	464

	N	SOURCE
5.0 Teacher's Personality Type Matched with Pupil Personality Type		
5.1 When teachers are placed in terms of personality type with children whose personality type differs greatly from their own, the teachers tend to change their own classroom behaviors to conform to the pupil personalities(with the exception of fearful teachers who do not react to children's personality traits)	$1X_F$	424
Correlates		
1.0 Teacher Role Functions-Teachers' Ratings of Pupils		
1.1 Teachers' ratings of pupils are positively correlated with pupils' I.Q. scores	$1X_F$	498
2.0 Teacher Classroom Behaviors in Terms of Personality Traits Displayed in the Classroom		
2.1 Teachers displaying warm, friendly, understanding classroom behaviors demonstrate:		
• superior emotional adjustment and stability	$1X_F$	471
• positive attitudes toward pupils	$1X_F$	471
• positive attitudes toward administrators	$1X_F$	471
• permissive, child-centered educational viewpoints	$1X_F$	471

	N	SOURCE
2.2 Teachers displaying responsible, businesslike systematic classroom behaviors demonstrate:		
• low emotional adjustment and stability	$1X_F$	471
• traditional, teacher-centered educational viewpoints	$1X_F$	471
2.3 Teachers displaying stimulating, imaginative classroom behaviors demonstrate:		
• superior emotional adjustment and stability	$1X_F$	471
• positive attitudes toward pupils	$1X_F$	471
• positive attitudes toward administrators	$1X_F$	471
• permissive, child-centered educational viewpoints	$1X_F$	471
3.0 Teachers' Classroom Behaviors and Educational Levels at which Teacher Functions		
3.1 As the picture shifts from elementary teaching performance through high school and into the university, the teachers' responsible, businesslike and systematic pattern of behavior and stimulating, imaginative pattern become increasingly more important; while the warm friendly understanding pattern of teacher behavior becomes progressively less important	$1X_F$	471

TABLE II RESEARCH FINDINGS - TEACHER

DIRECTLY RELATED TO PUPIL OUTCOMES (1)

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases

	Knowledge			Tool Skills			S.E. Adj.			Self-Direction			Cognition			Attitudes & Interests		
	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I
I. Teacher Traits, Personal Characteristics & Out-of-Class Behaviors																		
A. Age																		
B. Sex Elementary / Secondary / Both		NE			NE			NE										
C. Marital Status																		
D. Intelligence																		
E. Emotional Adj. and Stability																		
F. Attitudes (General)																		
G. Childhood and Adolescent Experiences-Engage in school-like activities																		
H. Interests and Activities (Out-of School)																		
I. Cultural Background vs. Teacher Training																		
J. Socio-Economic Status																		

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases

	Knowledge			Tool Skills			S.E. Adj.			Self Direction			Cognition			Attitudes & Interests		
	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I
II. Teacher's Training, Knowledge, Skills, Experience, Ratings and Salary																		
A. Training & Knowledge																		
A_1 - Methods Courses, Psych. Courses																		
Has																		
Lacks																		
A_2 - Subject Matter (Math, Science, etc.)																		
Has		NE			NE													
Lacks		--			--													
B. Recency of Training																		
B_1 - Within past 4 years																		
B_2 - Five years or more																		
C. Type of College Attended																		
C_1 - University																		
C_2 - Small College																		
D. Skills																		
E. Grade Level																		
E_1 - Elementary Level																		
E_2 - Secondary Level																		
F. Subject Specialization																		
G. Interest in Subject Matter		+			+													

TALLY I: RESEARCH FINDINGS: TEACHER

DIRECTLY RELATED TO PUPIL OUTCOMES (3)

87c

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases

	Knowledge			Tool Skills			S.E.Adj.			Self Direction			Cognition			Attitudes & Interests		
	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I
II. Teacher's Training, Knowledge, Skills, Experience, Ratings and Salary																		
H. Number of Years of Teaching Experience																		
I. Ratings of Teachers																		
I_1-By supervisors or other personnel																		
low ratings		2+			2+													
high ratings																		
I_2- By Self																		
low ratings																		
high ratings																		
I_3- By Pupil Achievement scores																		
low pupil scores																		
high pupil scores																		
J. Inservice Training																		

DIRECTLY RELATED TO PUPIL OUTCOMES (4)

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases

III. Teacher Attitudes Toward School & Schooling	Knowledge			Tool Skills			S.E. Adj.			Self Direction			Cognition			Attitudes & Interests		
	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I
A. Attitudes Toward Pupils																		
Positive																		
Negative																		
B. Attitudes Toward Administrators																		
Positive																		
Negative																		
C. Attitudes Toward Teachers																		
Positive		+			+													
Negative																		
D. Attitudes Toward Classroom Practices																		
Positive		+			+													
Negative																		
E. Combined Attitudes (Educational Viewpoints)																		
Positive																		
Negative																		

TALLY I: RESEARCH FINDINGS: TEACHER

DIRECTLY RELATED TO PUPIL OUTCOMES (5)

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases

	Knowledge			Tool Skills			S. E. Adj.			Self Direction			Cognition			Attitudes & Interests			
	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	
IV. Teacher Role Functions & Classroom Behaviors																			
A. Modes of Presentation																			
1. Direct Modes																			
a. Autocratic	-			-				-			-						-		
a_1 -with conforming pupils																	+		
b. Highly Controling	+ -			+			-	-			-		-	3- NE*			- NE		*NE on Creativity stress on recall
c. Direct		2-			2-			6-		-	2-			-		-	7		
c_1 -with apathetic pupils								-					Recall						
d. Dominative		2-			2-			5-											
e. Teacher-Centered																			
f. Lecture		16 NSD															-		
g. Directive or Highly Structured			+			+													
2. Indirect Modes																			
a. Democratic	+			+							+						+		
b. Loose & Open Structure							+						NE				NE		
c. Indirect		6+			6+			2+			3+			+		+	4+		
c_1 -with apathetic pupil								+						+			+		
d. Integrative		2+			2+			5+			+			+			2+		
e. Learner-centered																			
f. Discussion		16 NSD			NE												+		
g. Responsive		+			+						+			2+			+		

DIRECTLY RELATED TO PUPIL OUTCOMES (6)

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases

	Knowledge			Tool Skills			S.E. Adj.			Self Direction			Cognition			Attitudes & Interests			
	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	
IV. Teacher Role Functions & Classroom Behaviors																			
3. Laissez-faire Mode								-			+						-		
4. "Logical" Mode (B.O.Smith)	* 3+												** 6+						*Knowledge +factual content +knowledge of relationships +knowledge of principles **Cognition +concept formation +critical thinking +generalization +creativity +analysis
B. Goal Statement																			
1. Clear Goals			+			+	+			+			+			+			
2. Unclear Goals							2-												
3. Combinations																			
a. Goals with Pupil Valence																			
a_1-Unclear Goals & Positive Pupil Valence							+									+			
a_2-Unclear Goals with negative Pupil Valence							-									-	-		
a_3-Goals with Negative Valence minus reward or punishment								-								-			
b.-Goals with Mode of Presentation																			
b_1-clear goals & indirect mode		+			+						+								
b_2-unclear goals & direct mode & highly dependent pupils																			

TALLY I: RESEARCH FINDINGS: TEACHER

DIRECTLY RELATED TO PUPIL OUTCOMES (7)

87g

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases

	Knowledge			Tool Skills			S. E.Adj.			Self Direction			Cognition			Attitudes & Interests		
	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I
IV. Teacher Role Functions & Classroom Behaviors																		
C. Verbal Emphasis											+						+	
D. Achievement Grouping of Pupils																		
D_1-"low" pupils in heterogeneous group		+			+													
D_2-"high" or average pupils in homogeneous group		NE			NE													
E. Discipline																		
E_1-Clarity											+							
E_2-Firmness											+							
F. Ratings of Pupils																		

NSD - No Significant Difference
NE - No Effect
\+ - Increased
\- - Decreased
● - Most Effective-greatest gain in pupil achievement
Θ -Lower gain in pupil achievement

DIRECTLY RELATED TO PUPIL OUTCOMES (8)

	Knowledge			Tool Skills			S.E. Adj.			Self-Direction			Cognition			Attitudes & Interests		
	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I
IV. Teacher Role Functions & Classroom Behaviors																		
G. Teacher Classroom Behavior in Terms of Personality Traits Displayed in Classroom																		
1. The Self-Controlling Teacher with:																		
a. all personality types of pupils								+									+	
b. uniform groups of striving pupils		+			+													
c. Uniform groups of conforming pupils		+			+	reading spelling language												
d. uniform groups of opposing pupils		+			+ -spelling													
e. uniform groups of wavering pupils		+			+	reading spelling language												
f. children over 12 years	+			+												-		
g. gifted children-underachievers																+		
2. The Turbulent Teacher																		
a. all personality types of pupils								+									+	
a_1 - reading, spelling, language		Θ			Θ													
a_2 - science, math		●			●													
b. Striving pupils		●			●			+									+	
c. Conforming pupils		●			●			+									+	
d. Opposing pupils		-			-other subjects +spelling			+									+	
e. Wavering pupils		-			-			+									+	

TABLE IV RESEARCH FINDINGS: TEACHER

DIRECTLY RELATED TO PUPIL OUTCOMES (9)

NE - No Effect
\+ - Increases
\- - Decreases
● - Most Effective - greatest gain

	Knowledge			Tool Skills			S. E. Adj.			Self Direction			Cognition			Attitudes & Interests		
IV. Teacher Classroom Behavior in Terms of Personality Traits Displayed in Classroom	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I
3. The Fearful Teacher with																		
a. all personality types of pupils		- +social studies			- +social studies			-									-	
b. Striving pupils		+			+													
c. Conforming pupils																		
d. Opposing pupils																		
e. Wavering pupils																		
4. The Warm Friendly Understanding Teacher								+										
5. The Responsible, Business-like, Systematic Teacher																		
6. The Stimulating Teacher																		
7. A Combination of Two Teachers with Different Personalities (Turbulent & Self-Controlling) with all personality types of pupils		+			+													

TALLY II: RESEARCH FINDINGS: TEACHER

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases

NOT DIRECTLY RELATED TO PUPIL OBJECTIVES (1)

	Teacher's Attitude Toward Pupils			Teacher's Knowledge Displayed In Classroom			Teacher's Use of Cognitive Processes			Teacher's Mode Of Presentation			Teacher's Grouping Of Pupils			Supervisors Ratings Of Teachers			Need for Longer Period of Inservice Training			Teacher's Knowledge		
	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I
II. Teacher Training, Knowledge, Skills, Experience, Ratings & Salary																								
A. Training & Knowledge																								
A_1 -Earlier Training Prior to Teaching					NE																			
A_2 -Professional Knowledge, (Methods courses, Psych. courses					+																			
A_3 -Preference for Method of Teaching Reading											-													
B. Recency of Training					NE																			
C. Type of College Attended																								
C_1 -University																								
C_2 -Small College																								
D. Skills & Abilities																								
D_1 -Ideational Fluency-high																	+							
D_2 -Creative Ability high		+																						
E. Grade Level																								
E_1 -Elementary level																							+	
E_2 -Secondary level																								
F. Subject Specialization																								
G. Interest in Subject Matter																								
H. Number of Years of Teaching Experience 10 years or more																				+			3 NE	

TABLE II: RESEARCH FINDINGS: TEACHER

NOT DIRECTLY RELATED TO PUPIL OBJECTIVES (2)

87k

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases

	Teacher's Attitude Toward Pupils			Teacher's Knowledge Displayed In Classroom			Teacher's Use of Cognitive Processes			Teacher's Mode Of Presentation			Teacher's Grouping of Pupils			Supervisors Ratings Of Teachers			Teachers Attitude Toward Introducing New Program		
	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I
II. Teacher Training, Knowledge, Skills, Experience, Ratings & Salary																					
I. Ratings of Teacher																					
I_1-by supervisor																					
low ratings																					
high ratings																					
I_2 by self																					
low ratings																					
high ratings														*					*no small groups		
I_3-by pupil achievement																					
low pupil scores																					
high pupil scores																					
J. Inservice Training																					
J_1-in Learner Centered Climate		+			+			+													
J_2-in modern mathematics				+																+	

TABLE II: RESEARCH FINDINGS: TEACHER

NOT DIRECTLY RELATED TO PUPIL OBJECTIVES (3)

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases

	Teacher's Knowledge of Subject Matter			Teacher's Information About Pupils			Changes in Teachers Mode of Presentation			Teacher-Pupil Planning			
	S	F	I	S	F	I	S	F	I	S	F	I	
IV. Teacher Role Functions & Classroom Behaviors													
A. Modes of Presentation													
1. Direct Modes of Presentation													
a. Autocratic													
b. Highly Controlling	-												
c. Direct													
d. Dominative								-* inflexible					*Dominative Pattern Persists
e. Teacher-centered													
f. Lecture													
g. Highly-structured-Directive													
2. Indirect Modes of Presentation													
a. Democratic													
b. Loose Structure													
c. Indirect					+			2+flexible			+		
d. Integrative								*					*Integrative Pattern Persists
e. Learner-centered													
f. Discussion													
g. Responsive													
3. Laissez-Faire Mode													
4. "Logical" Mode (B.O.Smith)													

TALLY II: RESEARCH FINDINGS: TEACHER

NOT DIRECTLY RELATED TO PUPIL OBJECTIVES (4)

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases

87m

	Teacher's Mode of Presentation			Changes in Mode of Presentation			Teacher's Stated Cognitive Goals			Goals for Which Teacher Tested			Variability in Subject Matter			Changes in Teacher Classroom Behavior			
	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	
IV. Teacher Role Functions & Classroom Behaviors																			
B. Goal Statements																			
1. Clear Goals											* -								*Teacher did not test for stated goals
2. Unclear Goals																			
3. Combination																			
a. Goals with Pupil Valence																			
b. Goals with Mode of Presentation																			
b_1-clear goal with indirect mode		+ more	direct																
b_2-unclear goal with direct mode																			
C. Verbal Emphasis																			
D. Achievement Grouping of Pupils																			
D_1-"low" pupils in heterogeneous groups																			
D_2-"high" or "average" pupil in homogeneous groups																			
D_3-two separate homogeneous classes of different ability levels taught by same teacher.																			
1. One "high" group and one "average" group					-			*											-teacher held all cognitive goals
2. *One "low" group and One "average" group					-			*											-teacher limited goals to low levels of cognition

NOT DIRECTLY RELATED TO PUPIL OBJECTIVES (5)

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases

	Teacher's Mode of Presentation			Changes in Mode of Presentation			Teacher's Stated Cognitive Goals			Goals for Which Teacher Tested			Variability in Subject Matter			Changes in Teacher Classroom Behavior		
	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I
IV. Teacher Role Functions & Classroom Behaviors																		
D_4-Teacher Preference for a Certain Ability Group		+ more indirect																
E. Discipline																		
E_1-Clarity																		
E_2-Firmness																		
F. Ratings of Pupils by Teachers																		
G. Selection of Subject Matter Content																		
G_1-by individual teacher					-									+				
G_2- cooperatively by two or more teachers					-									+				

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases

NOT DIRECTLY RELATED TO PUPIL OBJECTIVES (6)

87o

	Supervisory Ratings			Teacher's Mode of Presentation			Changes in Teacher's Class-Room Behavior			
	S	F	I	S	F	I	S	F	I	
IV. Teacher Classroom Behavior in Terms of Personality Traits Displayed in Classroom										
1. The Self-Controlling Teacher with										
a. all personality types of pupils										
b. striving pupils										
c. conforming pupils										
d. opposing pupils					+*					*more indirect
e. wavering pupils										
f. children over 12 years										
g. gifted children & under-achievers										
2. The Turbulent Teacher										
a. all personality types of pupils										
1. reading, spelling, language										
2. science, mathematics										
b. striving pupils								**		**No consistent pattern
c. conforming pupils								+***		***conforms to children's personality
d. opposing pupils								+***		***conforms to children's personality
e. wavering pupils								+***		***conforms to children's personality
3. The Fearful Teacher										
a. all personality types of pupils							does not react to pupil's personality traits			
b. striving pupils										
c. conforming pupils										
d. opposing pupils										
e. wavering pupils										

TALLY II: RESEARCH FINDINGS: TEACHER

NOT DIRECTLY RELATED TO PUPIL OBJECTIVES (7)

87p

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases

	Supervisory Ratings			Teacher's Mode of Presentation			Changes in Teacher's Classroom Behavior		
	S	F	I	S	F	I	S	F	I
IV. Teacher Classroom Behavior in Terms of Personality Traits Displayed in Classroom									
4. The Warm, Friendly, Understanding Teacher		+ high rating							
5. The Responsible, Businesslike, Systematic Teacher									
6. The Stimulating Teacher									
7. A combination of Five Teachers with Different Personalities (turbulent and self-controlling) a. with all personality types of children									

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases
-B - Permissive, child-centered pole

CORRELATES

87q

	Teacher Skills			Teacher's Positive Attitude Toward Pupil			Teacher's Positive Attitude Toward Administrators			Teacher's Positive Attitude Toward Teachers			Educational Viewpoints Combined Attitudes			Observed Pupil Behavior			TCS-X Teacher's Warm, Friendly Understanding Behavior		
	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I
I. Teacher Traits, Personal Characteristics & Out of Class Behaviors																					
A. Age																					
A_1 - Under 30 years Both Elementary & Secondary		- Verbal Ability			NE			NE			NE			-B						+	
A_2 - 30 - 39																					
A_3 - 40 - 54																					
A_4 - over 55																					
B. Sex																					
B_1 - Male -elementary					+									+B							
B_2 - -secondary																					
B_3 - Female-elementary					-																
B_4 - secondary		+			+																
B_5 - Male-both levels																					
B_6 - Female-both levels		+																			
C. Marital (married)																					
C_1 Elementary					+									-B						+	
Secondary																					
C_2 Married & Subject Specialization																					
Social Studies					+																
English					+																
D. Intelligence																					
E. Emotional Adjustment & Stability																	NE				
F. Attitudes (General)																					
G. Childhood & Adolescent Experiences (Played School					+			+			+			-B						+	
					+			+						-B							
H. Interest & Activities (Out-of-school)					+			+			+			-B						+	

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases
-B - Permissive, child-centered pole

CORRELATES (2)
87r

	TCS-Z Teacher's Stimulating, Imaginative, Surgent Classroom Behavior			Teacher's Emotional Adjustment & Stability			TCS-Y Teacher's Responsible, Businesslike, Systematic Behavior			Leisure Time Activities & Interests			Excssive Use of Self-enhancing Responses		
	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I
I. Teacher Traits, Personal Characteristics & Out of Class Behaviors															
A. Age															
A_1 - Under 30 years Both Elementary & Secondary															
A_2 - 30 - 39		+			-										
A_3 - 40 - 54		+			-										
A_4 - over 55		-													
B. Sex								-							
B_1 - Male - elementary															
B_2 - -secondary								+							
B_3 - Female-elementary															
B_4 - secondary					+						+				
B_5 - Male-both levels															
B_6 - Female -both levels					+			+			+				
C. Marital (married)		+			+						+				
C_1 Elementary		+													
Secondary															
C_2 Married & Subject Specialization															
Social Studies															
English															
D. Intelligence															
E. Emotional Adjustment & Stability															
F. Attitudes (General)															
G. Childhood & Adolescent - Experiences (Played School)		+						+							
H. Interest & Activities (Out-of-school)		+			+			+							

CORRELATES (3)

87s

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases

	TCS-X Teacher's Warm, Friendly Understanding Behavior			Excessive Use of Self-enhancing Responses		
	S	F	I	S	F	I
I. Cultural Background vs. Teacher Training						
J. Socio-economic Status						
K. Influences Affecting Choice of Entering Teaching						
K_1- "satisfying school experience", "opportunity for pupil service", "desire for intellectual growth"					+	
K_2-"favorable prospects for advancement"					-	
L. Active Participation in Religious Activities		+				

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases
-B - Permissive, child-centered pole

CORRELATES (4)

87t

+B - teacher, centered
X - warm, friendly, understanding TCS
Y - responsible, businesslike, systematic TC
Z -- stimulating and imaginative TCS

	Teacher's Emotional Adjustment & Stability			Leisure Time Activities			Teacher Attitude Toward Pupil			Teacher Attitude Toward Teachers			Teacher Attitude Toward Administrators			Educational Viewpoints Combined Attitudes			Teacher Mode of Presentation		
	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I
II. Teacher's Training, Knowledge, Skills, Experience, Ratings & Salary																					
A_1 -Training & Knowledge in fields of Education (Methods courses, Psych. courses																					
A_2 -No. of years of training 4, 6 or more																					
B. Recency of Training within past 4 years		+						+			2+			+			-B				
C. Type of College Attended					NE																
University																	-B				
Small																	+B				
D. Skills																					
E. Grade Level-Elementary		+			+												-B				
(Grades K-3)		+			+																
Secondary					-												+B				
F_1 Subject Specialization																					
1. Applied courses education, medicine																			+ indirect		
2. Basic courses-physics, biology, sociology																			less indirect		
3. Practical course, Home Economics, Business, Real Estate																	+B		+ indirect		
4. Natural Science & Mathematics																	+B		+control lecture direct factual emphasis clarity		

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases
-B - Permissive, Child-centered pole

+B - teacher-centered
X - warm, friendly, understanding TCS
Y - responsible, businesslike, systematic TCS
Z - stimulating and imaginative TCS

	Teacher Classroom Behaviors Personality Traits in Class			Teacher Professional Related Activities			Pupil's Intelligence			Teacher Attitude Toward New Programs		
	S	F	I	S	F	I	S	F	I	S	F	I
II. Teacher's Training, Knowledge, Skills, Experience, Ratings & Salary												
A_1 Training & Knowledge in fields of Education (Methods courses, Psych. courses												
A_2 -No. of years of training 4, 6 or more		NE										
B. Recency of Training within past 4 years		-X, +Y +Z										
C. Type of College Attended		+ stimulating										
University												
Small												
D. Skills												
E. Grade Level-Elementary (Grades K-3					+						NE	
Secondary					-							
F_1 Subject Specialization 1. Applied Courses, education, medicine	All Found +critical +tolerance+clarity +nervous +relaxation											
2. Basic courses-physics, biology, sociology	All Found -relaxation,-tolerance -less nervous,-critical -clarity											
3. Practical course, Home Economics Business, Real Estate	+relaxed (Found)											
4. Natural Science & Mathematics	All Found less warmth less nervous											

TALLY III: RESEARCH FINDINGS: TEACHER

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases
-B - Permissive, child-centered pole

● - superior
O - least

CORRELATES (6)
87v

+B - teacher-centered
X - warm, friendly, understanding TCS
Y - responsible, businesslike, systematic TCS
Z - stimulating and imaginative TCS

	Teacher's Emotional Adjustment & Stability			Leisure Time Activities			Teacher Attitude Toward Pupil			Teacher Attitude Toward Teachers			Teacher Attitude Toward Administrators			Educational Viewpoints Combined Attitudes			Teacher Mode of Presentation			Teacher Classroom Behaviors Personality			
	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	
II. Teacher's Knowledge, Training, Experience, Skills, Ratings & Salary																									
F_1 5. Humanities																			All Found Indirect +clarity less fact emphasis -lecture -control			All Found +warmth +nervous			
F_2 Subject Specialization Combined with other Variables																									
1. Subject specialization & Grade level																									
a. Science on Secondary level		+																							
2. Subject specialization & grade level & age																									
a. Math-Science-Elementary 40-54 years of age																							●Y		superior
b. English-Social Studies-Elementary, over 40 yrs																							+Y		
3. Subject specialization & grade level & sex																							OX		least
a. Women science, elementary																							+X		
b. Women English-secondary		-																					+Y		
c. Women Math-secondary																							+X		
d. Women Social Studies Secondary																							+Z		
e. Women Science-secondary																							+Z		

CORRELATES (7)

87w

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases
-B - Permissive, child-centered pole

● - superior
⊖ - least

+B - teacher-centered
X - warm, friendly, understanding TCS
Y - responsible, businesslike, systematic TCS
Z - stimulating and imaginative TCS

	Teacher's Emotional Adjustment & Stability			Teacher's Classroom Behavior		
	S	F	I	S	F	I
F_2 Subject Specialization, Combined with other variables						
4. Subject Specialization & grade level & marital status						
a. Math-Science-Elementary, Single					+Y +Z	
b. Eng. Social Studies-Elementary, Single					+Y	
c. Math-Science-Elementary, Married		+				
d. Eng.-Social Studies-Elementary, Married		+			+X	
e. Secondary level						
1. Eng.-Social Studies Single					+Y	
2. Math-Science Single					+X +Y +Z	
3. Eng.-Social Studies Married					+X +Z	

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases
-B - Permissive, child-centered pole

● - superior
⊖ - least

CORRELATES (8)
87x

+B - teacher-centered
X - warm, friendly, understanding TCS
Y - responsible, businesslike, systematic TCS
Z - stimulating and imaginative TCS

	Teacher's Emotional Adjustment & Stability			Leisure Time Activities			Teacher Attitude Toward Pupil			Teacher Attitude Toward Teachers			Teacher Attitudes Toward Administrators			Educational Viewpoints Combined Attitudes			Teacher Mode of Presentation			Teacher Classroom Behaviors		
	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I
II. Teacher's Knowledge, Training, Skills, Experience, Ratings & Salary																								
G. Interest in Subject Matter																								
H. Number of years of Experience																								
H_1 Elementary level up to 4 years		+																					+X	
H_2 Elementary level up to 5 years																	-B						+Y +Z	
H_3 Elementary level 5 to 9 years																							+Z	
H_4 Elementary level 10 years or more																	+B							
H_5 Secondary level 15 or more years																	+B						+X +Y +Z	
I. Ratings																								
I_1 by others low								-			-			-										
high								+Z			+			+			+B							
I_2 by self low																								
high								+			+			+			-B						+X +Y +Z	
I_3 by pupil achievement scores low																								
high																								

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases
-B - Permissive, child-centered pole
● - superior
⊖ - least

+B - teacher-centered
X - warm, friendly, understanding TCS
Y - responsible, businesslike, systematic TCS
Z - Stimulating and imaginative TCS

	Leisure Time Activities			Teacher's Professional Related Activities			Pupil's Intelligence		
	S	F	I	S	F	I	S	F	I
II. Teacher's Knowledge, Training, Skills, Experience, Ratings and Salary									
J. Teacher's In-service Training under learner-centered climate									
K. Teacher Ratings of Pupils								+	
L. Salary - High		+				+			

TALLY III: RESEARCH FINDINGS: TEACHER

NSD - No Significant Difference
NE - No Effect
+ - Increases
- - Decreases
-B - Permissive, child-centered pole

● - superior
● - least

CORRELATES (10)
87z

+B - teacher-centered
X - warm, friendly, understanding TCS
Y - responsible, businesslike, systematic TCS
Z - stimulating and imaginative TCS

	Age of Teacher Under 30 yr.			Sex of Teacher			Marital Status			Childhood & Adolescent Experiences			Out of School Activities			Recency of Training Within Past 4 Years			Attended Large University		
III. Teacher Attitudes Toward School & Schooling	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I
A. Attitudes toward pupils					*			*			*			*			*				
positive																					
negative				Female Sec.			Married Elem.														
B. Attitudes toward Administrators																					
positive																					
negative											*			*			*				
C. Attitudes toward Teachers																					
positive																					
negative											*			*			*				
D. Attitudes toward Classroom Practice																					
positive																					
negative																					
E. Combined Attitudes Educational Viewpoints																					
positive				-B Male Elem.																	
negative				*B Male Sec.							-B			-B			-B			-B	

CORRELATES (11)

87zz

NSD - No Significant Difference
NE - No Effect
\+ - Increases
\- - Decreases

-B - Permissive, child-centered pole
+B - Teacher-centered
⊕ - Superior

	Teacher Attitudes Toward Pupils			Teacher Attitudes Toward Teachers			Teacher Attitudes Toward Administrator			Educational Viewpoints			Teacher Mode of Presentation			Teacher's Emotional Stability & Adjustment		
	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I	S	F	I
IV. Teacher Classroom Behavior in Terms of Personality Traits Displayed in the Classroom																		
4. The Warm, Friendly, Understanding Teacher																		
Elementary		+						+			-B						⊕	
5. The Responsible, Businesslike, Systematic Teacher											+B						-	
6. The Stimulating Teacher Imaginative, Surgent																		
Elementary		+						+			-B						⊕	
7. A Combination of Two Teachers with Different Personalities (Turbulent, self-controlling																		
a. with all personality types of children																		

Summary of Research Findings Related to the areas of
Curriculum Materials and Methods

An analysis of the data has provided the following classification system:

1.0 SEQUENCE, TYPES OF

1.1 Simple to Complex

1.2 Concrete to abstract

2.0 SOURCE OF INSTRUCTION

2.1 Pupil Instructing

2.11 Self-Instructing

2.12 Pupil Instructing Pupils - (Pupil teams)

2.2 Teacher Instructing

2.21 Demonstration

2.22 Textbooks

2.23 Materials

2.24 Teacher Directs Activity

2.3 Material Instructing

2.31 Programmed Instruction

2.32 Electronic Aids - (tape recorders, records, etc.)

2.33 Films

2.34 Textbooks

2.35 Concrete Objects

2.36 Television

3.0 TIME

3.1 Additional Time

4.0 PRACTICE THEORY

4.1 Distributive Practice vs. Mass Practice

5.0 MULTI-SENSORY

6.0 REINFORCEMENT

6.1 Repetition

7.0 COGNITIVE THEORY

7.1 Teacher Uses

7.11 Association Structures

7.12 Analysis Structures

7.13 Combination Cognitive Process Structures

7.14 Inquiry Training

7.2 Pupil Uses

7.21 Association Structures

7.22 Analysis Structures

7.23 Combination Cognitive Process Structures

7.3 Textbook Presents

7.31 Association Structures

7.32 Analysis Structures

7.33 Combination Cognitive Process Structures

8.0 MULTI-METHOD PRESENTATION

1.0 SEQUENCE

1.1 Simple to Complex

The sequence of simple to complex, e.g. spelling letter sounds - short words - long words, phonics as a prerequisite to all other aspects of reading, increasing the number of operations in arithmetic examples and problems, has produced an increase in:

	N	SOURCE
• General Tool Skills	$1X_F$	633
• Reading Skills	$3X_S$ $2X_F$	732,717,677 684,626
• Arithmetic Skills	$5X_S$	591,595,604,605
• Knowledge	$1X_S$	633
• Self-Direction	$1X_F$	683
• Cognition	$2X_S$	717,758

1.2 Concrete To Abstract

The sequence of concrete to abstract, e.g. pictures to words, blocks to numbers, and objects to symbols, has increased:

• Reading Skills	$1X_S$	702
• Arithmetic Skills	$3X_S$	604,595
• Knowledge	$1X_S$	702
• Self-Direction	$1X_S$	604
• Cognition	$1X_S$	758

2.0 SOURCE OF INSTRUCTION

2.1 Pupil Instructing

2.11 Self-Instructing

The pupil engaged in activities by himself, e.g. practicing, self-help devices, (pictures, dictionary), self selection of materials and self-pacing (not including programmed instruction), has produced an increase in:

	N	SOURCE
• General Tool Skills	$4X_S$ $4X_F$	931,773,722 904
• Reading Skills	$14X_S$ $6X_F$	904,737,604 661,638,626 690,627,669
• Arithmetic Skills	$1X_S$ $1X_F$	604 626
• Listening Skills	$12X_S$ $2X_F$	904 904
• Writing Skills	$12X_S$	904
• Knowledge	$3X_S$ $1X_F$	931,575 638
• Attitudes and Interest	$2X_S$ $1X_F$	904,575 627
• Self-Direction	$3X_S$	737,575,604
• The Amount of Time required (N.D.R.)	$1X_S$	931

2.12 Pupils instructing Pupils

Pupil teams, two or three students working together without teacher instruction, has shown increases in:

• General Tool Skills	$2X_S$ $1X_F$	931,916 916
• Reading Skills	$1X_F$	637

2.12 Pupils instructing Pupils- continued

	N	SOURCE
• Arithmetic Skills	$4X_S$ $4X_F$	916 916
• Spelling Skills	$4X_S$ $4X_F$	916 916
• Knowledge	$3X_S$	931,916
• Self-Direction	$2X_S$ $2X_F$	916 916

2.2 Teacher Instructing

2.21 Teacher demonstration

The teacher's use of classroom demonstration has shown to positively affect:

• Cognition	$4X_S$	917,857,545

2.22 Teacher and textbook

The teacher's use of the text, e.g. presenting groups of words, pictures, phonics rules and application, has led to an increase in:

• General Tool Skills	$4X_F$	696, 637
• Reading Skills	$5X_S$ $7X_F$	846,732,703,727 661,639,653,672
• Arithmetic Skills	$1X_F$	694
• Spelling Skills	$3X_S$	845,846,703
• Knowledge	$7X_F$	696,690,653,672
• Self-Direction	$2X_S$	727,732

2.23 Teacher and Materials

The teacher's use of materials e. g. words in a list, picture story, and films has had a positive affect on:

	N	SOURCE
• Reading Skills	$1X_F$	621
• Arithmetic Skills	$2X_S$	604
• Knowledge	$1X_S$ $1X_F$	846 697
• Cognition	$1X_S$ $1X_F$	917 641

2.24 Teacher Directed Activities

Classroom Activities that are specified for teacher direct involvement, e.g. auditory training, writing experience stories, sounding letters and words, and questioning, have affected:

• General Tool Skills	$1X_S$ $21X_F$	531 904,585,696
• Reading Skills	$20X_S$ $4X_{SNS}$ $10X_F$ $1X_{FNS}$	904,633,688,658 615,735,725 650,614 696,904,672, 646,674,623,625 585
• Listening Skills	$16X_S$ $5X_F$	904,856 904
• Writing Skills	$13X_S$ $1X_F$	531,904,853 904
• Knowledge	$9X_F$	696
• Attitudes and Interest	$3X_S$	608,928
• Cognition	$3X_S$ $6X_F$	608,928 696

2.24 Teacher Directed Activities - continued

	N	SOURCE
• Accuracy of Teacher Prescription (N.D.R.)	2X	931

2.3 Material Instructing

2.31 Programmed Instruction
The use of programmed materials and devices, e.g. texts, machines, computer-based instruction, and the E.R.E. instrument, have affected:

• General Tool Skills	$3X_S$ $8X_F$ $2X_{FNS}$	883 904,542,872,877 876
• Reading Skills	$16X_S$ $8X_F$	904 666,904
• Arithmetic Skills	$3X_F$	882,579
• Spelling Skills	$2X_F$ $1X_{FNS}$	889 876
• Listening Skills	$21X_S$ $6X_F$	516,904 904,542
• Writing Skills	$16X_S$ $7X_F$	904 904
• Knowledge	$2X_S$ $15X_F$ $3X_{FNS}$	883 542,889,572,882 872,876,877 879
• Attitudes and Interest	$1X_S$ $1X_{FNS}$	904 879
• Self-Direction	$1X_F$	879

2.31 Programmed Instruction-continued

	N	SOURCE
• Cognition	$2X_F$	579,889
• N.D.R.	$1X_F$	579

2.32 Electronic Aids

The use of tapes and records have produced increases in:

• General Tool Skills	$1X_S$ $3X_F$	545 904,542,540
• Reading Skills	$4X_F$	666,661
• Listening Skills	$1X_F$ $5X_F$	516 540,542,904
• Knowledge	$4X_F$	542

2.33 Films

The use of films, tachistoscopes, and the controlled reader, has lead to an increase in:

• General Tool Skills	$1X_F$	542
• Reading Skills	$7X_F$	616,671
• Listening Skills	$1X_S$ $3X_F$	516 542
• Knowledge	$6X_F$	542,697,572
• Cognition	$1X_F$	614

2.34 Textbooks

Utilization of textbooks as the primary source of instruction, e.g. self-explanatory texts, letter sequence, pictorial representation and questions, affects:

2.34 Textbooks - continued

	N	SOURCE
• Reading Skills	$8X_S$	846,703,717,825 727,689,654
	$1X_S$ neg.	665
	$3X_F$	642,689,648
• Spelling Skills	$4X_S$	846,702,825
	$1X_F$	845
	$1X_{FNS}$	888
• Writing Skills	$1X_S$	857
• Knowledge	$2X_S$	601,846
	$1X_F$	860
	$1X_{FNS}$	888
• Self-Direction	$2X_S$	604,709
• Cognition	$3X_S$	601,717,825
	$1X_S$ NEG.	665
	$3X_F$	860,692,792

2.35 Concrete Objects

The use of concrete objects and manipulative material has stated effect on:

• General Tool Skills	$1X_S$	874
• Arithmetic Skills	$4X_S$	602,604,590,598
• Knowledge	$1X_S$	874
• Attitudes and Interest	$2X_S$	591,608
• Self-Direction	$4X_S$	602,604,591,608
• Cognition	$4X_S$	760,773,590,604

2.36 Television

The use of television in the classroom has been shown to affect:

	N	SOURCE
• General Tool Skills	$11X_F$	904
• Reading Skills	$23X_S$	904
	$17X_F$	904
• Listening Skills	$28X_S$	904
	$26X_F$	904
	$2X_{FNS}$	904
• Writing Skills	$23X_S$	904
	$17X_F$	904
• Knowledge	$9X_F$	904
	$1X_F$ neg.	896
• Attitudes and Interest	$1X_S$	904

3.0 TIME

3.1 Additional Time

Where additional time spent on a task has been stated or implied, it affects:

• General Tool Skills	$1X_F$	924
• Reading Skills	$2X_S$	727,615
	$11X_F$	616,646,679,643 630
	$3X_{FNS}$	585,630
• Arithmetic Skills	$2X_F$	585

3.1 Additional Time - continued

	N	SOURCE
• Spelling Skills	$1X_F$	630
	$1X_{FNS}$	643
• Listening Skills	$3X_F$	904
• Cognition	$4X_F$	797,521
	$1X_{FNS}$	797
• N.D.R.	$1X_S$	845

4.0 PRACTICE THEORY

4.1 Mass vs. Distributive Practice

Distributive practice of task positively affects:

• Writing Skills	$2X_S$	853,857
	$1X_F$	851
• Knowledge	$3X_S$	943

5.0 MULTI-SENSORY

Use of multi-sensory input, where the stimuli are simultaneous, has affected:

• General Tool Skills	$2X_S$	776, 531
	$6X_F$ neg.	944
• Reading Skills	$3X_S$	633,728,846
• Spelling Skills	$2X_S$	728,846
• Writing Skills	$2X_S$	531, 853
• Knowledge	1X	846
	$3X_{FNS}$	944
	$2X_F$ neg.	944

6.0 REINFORCEMENT THEORY

6.1 Repetition

Repetition of task has produced positive increases in:

	N	SOURCE
• General Tool Skills	$1X_S$ $3X_F$	545 904
• Spelling Skills	$1X_S$	845
• Writing Skills	$3X_S$	853,857,858
• Listening Skills	$6X_F$	904
• Knowledge	$2X_S$	545,876
• N.D.R.	$1X_S$	845

7.0 COGNITIVE LEARNING THEORY

7.1 Teacher's use of Cognitive Structures

7.11 Teacher's use of Association Structures

The teacher's use of structures designed to establish the principle of association, e.g. picture dictionary, I.T.A., letters and sounds, number stories, have positively affected:

• Reading Skills	$2X_S$ $60X_F$ $2X_{FNS}$	725,674 621,653,623,657 644,654,632,695, 622,645 622
• Arithmetic Skills	$3X_S$ $1X_F$	602,604 654
• Spelling Skills	$3X_F$	654
• Knowledge	$8X_F$	653,654

7.11 Teacher's use of Association Structures- continued

	N	SOURCE
• Self-Direction	$1X_S$	602
	$1X_F$	621
• Cognition	$1X_S$	608
	$1X_F$	644
• Motor Skills	$2X_S$	851,853
	$14X_F$	548

7.12 Teacher's use of Analysis Structures

The teacher's use of structures designed to promote analysis, e.g. questioning, patterning, changing of words, produces an effect on:

• Reading Skills	$1X_S$	688
	$3X_{SNS}$	650
	$2X_F$	672
• Spelling Skills	$1X_S$	845
• Knowledge	$1X_F$	672
• Cognition	$3X_S$	608
	$2X_F$	521

7.13 Teacher use of Combinations of Cognitive Structures

The teacher's use of structures which involve two or more cognitive processes operating to affect:

• General Tool Skills	$7X_F$	696,939
• Reading Skills	$3X_S$	687,727
	$5X_F$	696
• Listening Skills	$1X_S$	856
• Knowledge	$10X_F$	696,939

7.13 Teacher's Use of Combinations of Cognitive Structures-continued

	N	SOURCE
• Attitudes and Interest	$3X_S$	928, 939
• Self-Direction	$2X_S$ neg. $2X_S$	862 727, 732
• Cognition	$4X_S$ $2X_S$ $15X_F$	917, 928 862 696,937,868,939

7.14 Inquiry Training

The teacher's use of open-ended structures designed to help children develop in the art of asking questions has led to an increase in:

• General Tool Skills	$1X_F$	745
• Knowledge	$1X_F$ $1X_{FNS}$	750 745
• Cognition	$1X_S$ $5X_F$ $1X_{FNS}$	752 745, 750 745

7.2 Pupil's Use of Cognitive Processes

7.21 Pupil's use of Association

Pupils involved in a learning task and utilizing the principles of association has affected:

• Reading Skills	$4X_S$ $1X_S$ neg.	720 677
• Arithmetic Skills	$8X_F$ $1X_{FNS}$	576 576
• Knowledge	$2X_S$	720
• Self-Direction	$1X_S$	727

7.22 Pupil's use of Analysis

Pupil's utilization of analysis has stated affect on:

	N	SOURCE
• Reading Skills	$2X_S$	688,727
• Spelling Skills	$1X_S$	845
• Knowledge	$2X_S$	917,757
• Self-Direction	$1X_S$	727
• Cognition	$5X_S$	688,776,608,603, 757

7.23 Pupil's use of Combinations of Cognitive Processes

The pupil's use of more than one cognitive function, and where the specific processes are not identified has produced increases in:

• General Tool Skills	$3X_S$	531,735
	$1X_F$	924
• Reading Skills	$1X_S$	732
	$1X_F$	623
• Arithmetic skills	$1X_S$	604
• Listening Skills	$1X_S$	924
• Writing Skills	$1X_S$	735
• Knowledge	$2X_S$	735,760
• Attitudes and Interest	$1X_S$	758
• Self-Direction	$2X_S$	732
• Cognition	$5X_S$	602,603,712,714 760
	$8X_F$	937,868
• Motor Skills	$1X_S$	924

7.3 Textbook presents Cognitive Structures

7.31 Textbook presents Association Structures

Textbooks which utilize the principle of association in presenting material to the student produces an affect on:

	N	SOURCE
• General Tool Skills	$1X_S$	737
• Reading Skills	$5X_S$	717,825,727,702
• Arithmetic Skills	$8X_F$	576
	$1X_{FNS}$	576
• Listening Skills	$1X_S$	825
	$1X_{FNS}$	888
• Knowledge	$3X_S$	601,825,702
	$1X_{FNS}$	888
• Self-Direction	$3X_S$	737,604
• Cognition	$2X_S$	601,717

7.32 Textbook presents Analysis Structures

Texts which present to the student structures designed to promote the use of analysis has produced an affect on:

• General Tool Skills	$1X_{F\ neg.}$	637
• Spelling Skills	$1X_F$	845
• Knowledge	$3X_S$	917,757,760
• Cognition	$2X_S$	757,760

7.33 Textbooks presents Combinations of Cognitive Structures

Texts which utilize two or more cognitive structures or where the specific processes are not identified lead to an increase in:

	N	SOURCE
• General Tool Skills	$2X_S$	756
• Reading Skills	$1X_F$	626
• Arithmetic Skills	$1X_F$	626
• Spelling	$1X_S$	846
• Knowledge	$3X_S$	846,757,760
	$5X_F$	860,792
• Cognition	$3X_S$	757,760,756
	$17X_F$	860,889,792
	$4X_{FNS}$	792

8.0 MULTI-METHOD

8.1 Multi-Method

Research which has indicated that a combination of methods are operating to affect:

• General Tool Skills	$11X_F$	696
• Reading Skills	$21X_F$	696,657,643,630, 694,625
	$2X_{FNS}$	630
• Spelling Skills	$1X_{FNS}$	643
• Listening Skills	$1X_S$	924
• Knowledge	$9X_F$	694,696
• Cognition	$6X_F$	696
• Motor Skills	$1X_S$	924

8.1 Combinations of Methods used in the Context of Instructional Television

In the context of I.T.V. certain combinations of methods have produced success in increasing:

	N	SOURCE
• General Tool Skills	$9X_F$	904
• Reading Skills	$22X_S$	904
	$8X_F$	904
• Listening Skills	$23X_S$	904
	$12X_F$	904
• Writing Skills	$22X_S$	904
	$10X_F$	904
• Attitudes and Interest	$1X_S$	904

I.V. / D.V.	TOOL SKILLS		READING SKILLS		ARITH. SKILLS		SPELLING SKILLS		LISTENING SKILLS		WRITING SKILLS		KNOW-LEDGE		P.A.I.		SELF DIRECT.		COG-NITION		MOTOR SKILLS		N.D.R.	
CATEGORY	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.
Sequence-Simple to Complex	1		3	2		5								1			1			2				
Sequence-Concrete to Abstract				1		3								1				1		1				
Pupil Instructing Self	4	4	6	14	1	1			2	12		12	1	3	1	2		3						1
Pupil Instructing Pupil	1	2	1		4	4	4	4						3			2	2						
Teacher Demonstration																				4				
Teacher and Textbook	4		7	5	1			3					7					2						
Teacher and Materials			1			2							1	1					1	1				

I. V. = Independent Variable
D. V. = Dependent Variable

I.V. / D.V.	TOOL SKILLS		READING SKILLS		ARITH. SKILLS		SPELLING SKILLS		LISTENING SKILLS		WRITING SKILLS		KNOW-LEDGE		P.A.I.		SELF DIRECT.		COG-NITION		MOTOR SKILLS		N.D.R.	
CATEGORY	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.
Teacher Directed Activities	21	1	10 1NS	20 4NS					5	16	1	13	9			3			6	3				2
Programmed Instruction	8 2NS	3	8	16	3		2 1NS		6	21	7	16	15 3NS	2	1NS	1	1		2				1	
Electronic Aids Tapes and Records	3	1	4						5	1			4											
Films	1		7						3	1			6						1					
Textbooks			3	8 1NEG			1 1NS	4				1	1 1NS	2				2	3	3 1NEG				
Concrete Objects		1			4									1				4		4				
T.V.	11		17	23					26 2NS	28	17	23	9 1NEG			1								

I. V. = Independent Variable
D. V. = Dependent Variable

5

I.V. / D.V.	TOOL SKILLS		READING SKILLS		ARITH. SKILLS		SPELLING SKILLS		LISTENING SKILLS		WRITING SKILLS		KNOW-LEDGE		P.A.I.		SELF DIRECT.		COGNI-TION		MOTOR SKILLS		N.D.R.	
CATEGORY	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.
Additional Time	1		11 3NS	2	2		1 1NS		3										4 1NS					
Mass VS. Distributive Practice											1	2		3										
Multi-Sensory	6 NEG	2		3				2				2	3NS 2[illegible]	1										
Repetition (Reinforcement)	3	1						1	6			3		2										
Teacher Presents Association Structures	60 2NS	2			1	3	3						8				1	1	1	1	14	2		
Teacher Presents Analysis Structures			2	1 3NS				1											2	3				
Teacher Presents Combination Cognitive Structures	7		5	3									10			3 2NEG		2	16	4 2NEG				

I. V. = Independent Variable
D. V. = Dependent Variable

I.V. / D.V.	TOOL SKILLS		READING SKILLS		ARITH. SKILLS		SPELLING SKILLS		LISTENING SKILLS		WRITING SKILLS		KNOW-LEDGE		P.A.I.		SELF DIRECT.		COGNI-TION		MOTOR SKILLS		N.D.R.	
CATEGORY	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.
Inquiry Training	1												1 1NS						5 1NS	1				
Pupils use of Association				4 1NEG	8 1NS									2				1						
Pupils use of Analysis				2				1						2				1		5				
Pupils use of Combination Cognitive Processes	2	3	1	1		1				1		1	1	2		2		2	9	5		1		
Textbook Presents Association Structures		1		5	8 1NS				1NS	1			1NS	3				3		2				
Textbook Presents Analysis Structures	1NEG													3						2				
Textbook Presents Combination Cognitive Structures		2	1		1			1					5	3					17 4NS	3				

I. V. = Independent Variable
D. V. = Dependent Variable

I.V. / D.V.	TOOL SKILLS		READING SKILLS		ARITH. SKILLS		SPELLING SKILLS		LISTENING SKILLS		WRITING SKILLS		KNOW-LEDGE		P.A.I.		SELF DIRECT.		COGNI-TION		MOTOR SKILLS		N.D.R.	
CATEGORY	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.
Multi-Method	11		21 2NS				1NS			1			9						6			1		
Multi-Method in the context of I.T.V.	9		8	22					12	23	10	22				1								

I. V. = Independent Variable
D. V. = Dependent Variable
I.T. V. = Instructional Television

D.V. / Independent Variable Category	TOOL SKILLS		KNOWLEDGE		P.A.I.		SELF DIRECTION		COGNITION		MOTOR SKILLS		N.D.R.	
	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.
Sequence of Simple to Complex	3	8		1			1			2				
Sequence of Concrete to Abstract		4		1				1		1				
Source of Instruction Pupil Instructing Self	13	43	1	3	1	2		3						1
Source of Instruction Pupil Instructing Pupil	10	10		3			2	2						
Source of Instruction Teacher Instructing Pupils	37 1NS	50 4NS	9			3			6	7				2
Source of Instruction Material Instructing Pupils	43 4NS	70 1NEG	17	5	INS	1	1	6	10 INS	8 1NEG			1	
Source of Instruction Equipment Instructing Pupils	94 2NS	77	19 1NEG			1			1					

D. V. = Dependent Variable

TABLE II: RESEARCH FINDINGS: CONCLUDED (2)

D.V.	TOOL SKILLS		KNOWLEDGE		P.A.I.		SELF DIRECTION		COGNITION		MOTOR SKILLS		N.D.R.	
Independent Variable Category	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.
Additional Time	18 4NS	2							4 1NS					1
Mass vs. Distributive Practice	1	2		3										
Multi-Sensory	6 NEG	9	3NS 2 NEG	1										
Reinforcement (Repetition)	9	5		2										1
Teacher Uses Association	64 2NS	5	8				1	1	1	1	14	2		
Teacher Uses Analysis	2	2 3NS							2	3				
Teacher Uses Combination Cognitive Structures	12	3	10			3 2NEG		2	16	4 2NEG				

D. V. = Dependent Variable

TABLE III: RESEARCH FINDINGS: CURRICULUM (3)

D.V. / Independent Variable Category	TOOL SKILLS		KNOWLEDGE		P.A.I.		SELF DIRECTION		COGNITION		MOTOR SKILLS		N.D.R.	
	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.	F.	S.
Pupil Uses Association	8 1NS	4 1NEG		2				1						
Pupil Uses Analysis		3		2				1		5				
Pupil Uses Combination Cognitive Structures	3	7	1	2		2		2	9	5		1		
Text Presents Association	8 2 NS	7	1NS	3				3		2				
Text Presents Analysis	1NEG			3						2				
Text Presents Combination Cognitive Structures	2	3	5	3					17 4NS	3				
Multi-Method	84 3NS	78	17	1		1		2	7	1		1		

D. V. = Dependent Variable

TALLY III: COMPOSITE OF FINDINGS: CURRICULUM

105i

INDEPENDENT VARIABLE / DEPENDENT VARIABLES		TOOL SKILLS	KNOWLEDGE	ATTITUDES & INTERESTS	SELF DIRECTION	COGNITION	MOTOR SKILLS	NOT DIRECTLY RELATED
SEQUENCE	F.	3			1			
	S.	12	2		1	3		
PUPIL INSTRUCTING	F.	23	1	1	2			
	S.	53	6	2	5			1
TEACHER INSTRUCTING	F.	50 1NS	17			7		
	S.	60 4NS	1	3	2	4		2
MATERIAL INSTRUCTING	F.	132 6NS	35 4NS-1Neg		1	6		1
	S.	151 1Neg	5	4	6	7 1Neg		
TIME	F.	18 4NS				4 1NS		
	S.	2						1
DISTRIBUTIVE PRACTICE	F.	1						
	S.	2	3					
MULTI-SENSORY	F.	6Neg	3NS 2Neg					
	S.	9	1					
REPETITION	F.	9						
	S.	5	2					1
TEACHER COGNITION	F.	79 2NS	20 1NS		1	24 1NS	14	
	S.	11 3NS		3 2Neg	3	9	2	
PUPIL COGNITION	F.	11 1NS	1			9		
	S.	14 1Neg	6	2	4	10	1	
TEXT COGNITION	F.	11 3NS	5 1NS			17 1NS		
	S.	10	9		3	7		
MULTI-METHOD	F.	71 3NS	9			6		
	S.	68		1			1	

APPENDIX B

GLOSSARY
OF
SELECTED OPERATIONALLY-DEFINED
EDUCATIONAL TERMS

Ability

Ability is the pupil's rate of learning. (457)

Ability, Average (Pupil)

A pupil of average ability is one whose I.Q. score is between 88-112, one standard deviation from the mean of 100.
(Detroit Group Intelligence Test) (240)

Ability, Below Average (Pupil)

A pupil of below average ability is one whose I.Q. score is below 88, more than one standard deviation below the mean of 100.
(Detroit Group Intelligence Test) (240)

Ability, Highest (Pupil)

Pupils of highest ability are those whose I.Q. scores are 2 or more standard deviations above the mean for thier grade.
(Detroit Beginning First Grade Intelligence Test, Kuhlman-Anderson Intelligence Test, Otis Quick Scoring Mental Ability Test.) (206)

Ability, Lowest (Pupil)

Pupils of lowest ability are those whose I.Q. scores are 2 or more standard deviations below the mean for their grade.
(Detroit Beginning First Grade Intelligence Test, Kuhlman-Anderson Intelligence Test, Otis Quick Scoring Mental Ability Test.) (206)

Ability, Very Superior (Pupil)

A pupil of very superior ability is one whose I.Q. score is 125 or above (two or more standard deviations above the mean of 100.)
(Detroit Group Intelligence Test) (240)

Accuses (Teacher)

The teacher states that the individual is acting out of order.
(Classroom observation)

(429)

Achievement

Measurable differences in tool skills, content, understanding, and skill in problem solving constitute achievement.

(457)

Achievement Groups, Procedures for Forming

Pupils are placed in achievement groups in reading, language, and arithmetic based on:

1. Achievement test scores (Stanford Achievement Test)
2. Mental Maturity (California Test of Mental Maturity)
3. Recommendations of previous teacher for pupil in subject
4. Analysis of anecdotal and test data from cumulative record
5. Number of teachers available to teach subject

(19)

Acoustical Control

Through the use of acoustically absorptive floor covering*, the sounds of voices and movement are kept below the level which would distract others working in nearby areas.

(1002)

Acoustically Absorptive Floor Covering

Carpet, tile, or other material designed to absorb sound and reduce noise made by furniture, feet, etc.

(1004)

Acoustics, Articulation Index

The degree to which speech sounds can be recognized from one room to another, as follows:

Articulation Index	% of Words Understood
0.06	10%
0.10	20%
0.20	55%
0.30	82%
0.40	90%

(1004)

Acoustics, Noise Reduction

The over-all amount of loss, in decibels, of sound as it travels from one area to another. This includes the transmission loss through a simple or complex barrier, plus a function of the area of the common boundary between the rooms and the total sound absorption in the second, or listening room. (1004)

Activities, Variety of Simultaneous

Within one classroom or instructional area, groups or individual pupils work on several different projects: reading, painting a mural, planning a group project. (1002)

Adjustment (Pupil)

The pupil's self-reliance, sense of personal freedom, feeling of belonging, withdrawing tendencies, nervous symptoms, anti-social tendencies, social standards, social skills.
(California Test of Personality) (247)

Adjustment of Retained Student in Multi-Age Classes

In a class composed of six-, seven-, and eight-year-olds, or nine-, ten-, and eleven-year-olds, a student who must be retained an extra year will know 2/3 of his classmates and his teacher. (219)

Adjustment to Junior High School

Students follow schedules without problems, move quietly from class to class, etc. (215)

Administrator

The individual who utilizes existing structures or procedures to achieve an organizational goal or objective. The emphasis is on maintaining established structures, procedures or goals. The administrator is a stabilizing force.

(344)

Administrative Specialization

The administrative person has specialized training and experience in:

1. Administration : scheduling, keeping records, assigning pupils and teachers to classes, etc.
2. Instruction : teaching methods and curricula
3. Guidance : testing, counseling, interviewing, etc.

(28)

Administrative Team

A principal, a director of instruction, and a director of guidance administer one large school (1000 or more students) as a three-position administrative team.

(28)

Admonishes (Teacher)

The teacher states or implies that a pupil or pupil group is not going to do what is correct or expected.
(Classroom Observation)

(429)

Affectivity, Positive

The teacher builds positive relationships and feelings in the pupil-teacher interaction by:

1. Being supportive*
2. Being solicitous*
3. Encouraging pupils*
4. Doing something personal for pupil*
5. Estimating pupil's or pupils' needs and acting on his judgement*
(Classroom Observation)

(429)

Affectivity, Negative

The teacher controls personal relationships in classroom by negatively responding to the interaction as demonstrated by the following behaviors:

1. Admonishes*
2. Reprimands*
3. Is accusative*
4. Responds with a verbal futuristic statement*
   (Classroom Observation)

(429)

Aggressiveness Toward Persons or Things

Student infractions of school rules including:

1. Abuse of privileges
2. Bus misconduct
3. Destruction of school property
4. Disregard for other sutdents
5. Fighting
6. Insubordination
7. Throwing objects

(1006)

Aide, Clerical

The clerical aide does the following non-instructional tasks:

1. Collects monies (banking, lunch, etc. and maintains records of collections
2. Takes attendance and maintains records
3. Types and duplicates instructional materials, team schedules, tests, etc.
4. Prepares visuals, bulletin boards, sets up and operates A.V. equipment
5. Arranges furniture, materials, books, etc., in classrooms as directed by teachers
6. Corrects papers or tests using keys provided by teachers
7. Supervises recess, lunchroom, bus, studyhall
8. Posts data prepared by teachers on records, types report cards prepared by teachers

(259)

Aide, Neighborhoods

A parent from the school district hired and trained (in a 30-hour workshop) to assist the classroom teacher with the monitorial, clerical, and housekeeping duties.

The aide:

1. Supervises class while teacher works with small groups or individuals
2. Escorts groups to and from other areas of the school (gymnasium, auditorium, lunchroom, playground)
3. Takes attendance, collects monies, posts lists, files, types
4. Adjusts shades and windows, obtains supplies
5. Cleans aquarium, cupboards, chalkboards

(90)

Aide, Staff

Employed to do general building, monitorial and clerical jobs, the staff aide:

1. Supervises hallways, lunchrooms, doors
2. Types, files, operates duplicating machines (Must be 18 years old or older, achieve 7th grade score on a national achievement test)

(143)

Aide, Teaching

A parent (high school graduate or equivalent) hired and trained in a specific aide-training program to assist the teacher with the classroom reading program. Each aide learns to teach specific reading skills (phonetic analysis, syllabication, etc.) and teaches them to individuals or small groups selected by the teacher.

(60)

Aide, Teaching Aide I

Employed as a general classroom helper, one per teacher, the Aide I does the routine general and clerical tasks:

1. Takes attendance
2. Collects monies
3. Types
4. Grades objective tests
5. Sets up equipment
6. Obtains required supplies
7. Checks homework
8. Prepares visual materials

(143)

Aide, Teaching Aide II

The teaching Aide II (age 18 or over, has a high school diploma and training in the Aide Program) carries out teaching assignments which have been planned by the teacher:

1. Makes arrangements for trips and speakers
2. Takes small groups for oral reading
3. Demonstrates use of equipment for students
4. Helps students select books, find materials for research or pleasure reading
5. Supervises students while teacher works with individuals or small groups
6. Gives make-up lessons to students who have been absent
7. Makes anecdotal notes on students

May also do any of the tasks listed for Aide I.

(143)

Alert Pupil

The following behaviors are indicative of alert pupils:

1. Children appear relaxed and attentive to teacher's explanations
2. Children show interest in topics under discussion by suggestions and participation
3. Children do not show signs of boredom (yawns, whispers, looking around)
4. Children do not seem to be daydreaming, attention is not wandering
5. Children show enthusiasm for a particular activity by their actions

(424)

Aloof Teacher

The following actions are indicative of aloof teacher behavior:

1. Teacher is reserved and detached in her actions
2. Teacher seldom laughs with the children
3. Teacher uses praise sparingly
4. Teacher maintains emotional distance from children by her action
5. Teacher does not joke with the children
6. Teacher does not display affectional responsiveness towards the children

(424)

Aloofness, Principal

The principal who is aloof:

1. Organizes all faculty meetings according to a tight agenda
2. Uses faculty meetings as principal-report sessions
3. Runs faculty meetings like business conferences
4. Sets rules which are never questioned
5. Does not provide secretarial service for teacher's use
6. Does not inform teachers of the results of a supervisors' visits (Organizational Climate Description Questionnaire)

(326)

Analysis

The pupil breaks down concepts or general principles into their component parts.

(457)

Analysis for Comparison (Pupil)

Pupil looks for, finds, or states characteristics of an object or event which discriminates it from other objects and events.

(760)

Analyzing Administrative Style

The principal whose administrative style is analyzing the situation:

1. Uses program values (states concern for community support of school, public relations, instructional program, etc.)
2. Conceptual analysis (relates specific incident to general situation, or sees additional implications
3. Shows awareness of poor work (notices poor typing, points

out errors in plans, etc.) (332)

Antagonistic Teacher Group

An antagonistic group is one whose members:

1. Are intensely competitive
2. Lack acceptance of all members
3. Blame others when criticized
4. Show aggression toward members and persons outside of group
5. Are irritable
6. Do less work when supervisor is absent

(370)

Anxiety

The individual's behavior is characterized by a display of fearful anticipation and may be determined by:

1. Galvanic skin responses and changes in heartbeat rates (403)
2. Inventories and rating scales which measure feelings of threat and fear
   (Children's Manifest Anxiety Scale) (454)
   (Assessing Children's Feelings) (424)

Apathetic Pupil

Pupils display little enthusiasm, little class involvement, present few ideas in class in the form of verbal statements and demonstrate listlessness by making few, slow and feeble movements.
(Classroom Observation) (424)

Application

The pupil uses general ideas, rules of procedures, or generalized methods in particular, concrete, or new situations. (457)

Articulation Link

An individual who is a member of two distinct primary groups (coffee "klatch", lunch group, car pool) is the articulation link between these groups.

(339)

Association

When presented with an object, fact, term, or principle, the student states another which, for the student, is related to the original.

(457)

Attitude

An attitude is a predisposition to act in a consistent manner.

(457)

Attitudes (Teacher)

Teacher attitudes in terms of how well they will get along with pupils in interpersonal relationships and how well satisfied they will be with teaching as a profession are assessed by the use of an inventory.
(Minnesota Teacher Inventory)

(383)

Attitude Toward Learning (Pupil)

The pupil's predispostion to engage in learning tasks is evidenced by observed pre- and post- participation in these tasks.

(424)

Attitudes Toward Pupils, Other Teachers, Parents, Administrators (Teachers)

The teacher's attitudes were determined by using the following two criteria:

1. The judgements of principals in terms of teaching performance
2. The opinions of teachers toward pupils, other teachers, parents, supervisors, administrators, nonteaching personnel in the school, democratic classroom procedure and democratic administrative procedures
   (Ryans' Inventory of Teacher Opinion)

(471)

Attitudes Toward School, Positive, Reading Readiness

A pupil's positive attitude toward school is demonstrated by:

1. An absence of physical aggression toward teacher and peers
2. Refraining from hiding under desk or tables, or showing fear of the new situation in other ways

(702)

Attitudes Toward Teacher (Pupil)

Pupils' attitudes toward the teacher were assessed in terms of the following factors:

1. The teacher's affective set towards pupils in terms of kindness
2. The teacher's view of himself as always right
3. The teacher's development of pupil interest in school work
4. The pupil's view of learning tasks as easy or difficult
5. The teacher's willingness to explain and clarify
6. The teacher's disciplinary ability
   (My Teacher Inventory)

(398)

Attitudes Toward Teacher (Pupil)

The pupil responds to the teacher's actions and directions in terms of greater or intense acceptance or rejection by obeying or disobeying teacher's directions and/or responding to teacher's statements at once.

(404)

Auditory and Visual Discrimination Level, Reading Readiness

The auditory and visual discrimination level required for reading includes the following:

1. The pupil indicates likenesses and differences in sounds at the beginning and ending of words
2. The pupil indicates likenesses and differences in shape, size, position, and color, and observes and states relatively small details in these discriminations

(702)

Auditory Decoding Ability (Pupil)

The pupil's comprehension of the spoken work.
(Illinois Test of Psycholinguistic Abilities)

(915)

Auditory-Vocal Association (Pupil)

The pupil relates spoken words in a meaningful way.
(Illinois Test of Psycholinguistic Abilities)

(915)

Auditory-Vocal Automatic Ability (Pupil)

The pupil anticipates what will be said based on what has already been said.
(Illinois Test of Psycholinguistic Abilities)

(915)

Auditory-Vocal Sequencing Ability (Pupil)

The pupil repeats a sequence of symbols previously heard.
(Illinois Test of Psycholinguistic Abilities)

(915)

Authenticity

Authenticity refers to the openness of the behavior of an individual, the degree to which the behavior exhibited is consistent with the individual's perception of his identity.

(326)

Authoritarian Leadership (Teacher)

The adult leader serving as the teacher

1. Gives directions, orders, or non-constructive criticisms
2. Deprecates children's behavior
3. Justifies his own position or authority
4. Makes unfriendly statements and threats
(Classroom Observation) (445)

Authority, Delegated

The administrator assigns responsibilities for executing tasks to members of the staff. (370)

Authority, Shared

The administrator gives the staff a part in

1. Deciding upon work to be done
2. Planning how it will be done
3. Assigning the responsibilities to its members
4. Keeping its members informed on progress
5. Checking on job distribution
6. Reassigning when unequal loads are observed (370)

Autocratic Leader

The autocratic leader:

1. Gives orders, expecting others to carry them out
2. Does not give praise for work done
3. States that he is in position of authority
4. Rejects initiative of subordinates (309)

Autocratic Official Leader

Having received his position through appointment or examination, the autocratic official leader is one who has exact specifications in mind of the type of school he wants, and who tells his faculty exactly what he wants.

1. He believes his function is directing and inspecting
2. He smiles broadly, greets heartily those of whom he approves; he ignores, avoids, or gives hasty forced recognition to those of whom he does not approve
3. He holds short, terse faculty meetings in which he gives teachers the information which he judges they should know. No time is provided in faculty meetings or teachers' schedules for planning or discussion. No small group meetings are held
4. Schedules, textbooks, courses of study, and details of operating the school are decided upon by the administrator
5. He is well-organized in the performance of his own duties
6. He attends meetings which he feels the school's public relations require
7. He is on hand all day to make certain by inspection that everything is progressing to his satisfaction

(370)

Autocratic Teacher

The teacher dictates policy and goals, makes decisions leaving no room for free pupil discussions, gives peremptory orders, expects immediate obedience, sets up tasks so that children in fulfilling them feel they are doing things for her, speaks more than 50% of the time, discourages children's questions, supervises all routine classroom procedures and interrupts pupils although their discussions are relevant.

Autonomous Climate

In the prototype of the Autonomous Climate:

1. The principal gives teachers almost complete freedon to provide their own structures for interaction, and to find ways within the group for satisfying social needs relatively high in Esprit*
2. Teachers achieve their self-selected goals quickly (low* DISENGAGEMENT*) and the few minority pressures do not prevent the group's working well together and accomplishing the tasks of the organization
3. The principal sets up facilitating procedures to relieve the teachers and himself of routine duties and details (administrative reports, supply procurement, etc.), so there is a low degree* of HINDRANCE*.

4. Through achievement of social-needs satisfaction (friendliness, working together) there is above-the-mean ESPRIT*.
5. The principal is ALOOF*. He runs the organization as a business. He sets up procedures and policies, provides guidelines for teachers to follow, but does not personally check to see that things are getting done
6. He does not force people to work harder, he monitors activities very little (low* PRODUCTION EMPHASIS*)
7. He shows average* CONSIDERATION*
8. He provides THRUST* by setting an example and working hard himself

(326)

Auxiliary Personnel

1. Aides* or teacher assistants* hired to relieve teachers of monitorial, clerical, or housekeeping functions (37, 90, 143, 259)
2. Teaching aides* or assistant teachers* hired to do specific teaching tasks under the supervision of the teacher (60, 143)
3. Neighborhood workers* who serve as cultural links to the community (90)

Basal Words, Changing

Student and/or teacher changes basal words by substituting different consonants in the beginning, middle, and final positions in the words. (727)

Benevolent Autocratic Leader

The "benevolent" autocratic leader:

1. Makes all decisions based on his subjective judgment stating "this is best for you"
2. Delegates few responsibilities
3. Checks all details of work done by others, frequently re-doing it (370)

Block Scheduling

1. All students in a grade or team are scheduled for special classes (art, music, physical education) during the same hour (153)
2. Speech correction or remedial reading classes are scheduled daily over a period of ten or twelve weeks, rather than weekly for the school year (79)

Bridge

A member of one group regularly interacts with a member of a second group forming a link which facilitates communication between the groups, but which is not sufficiently strong to cause the groups to merge into one. (339)

Career-Oriented Principal

The career-oriented principal is interested in moving up toward other kinds of positions in education (assistant superintendent, curriculum director, university professor). He demonstrates this interest by taking graduate courses in education and administration.

(284)

Categorical- Inferential Categorization (Pupil)

Children organize and label objects on the basis of implied characteristics of the nature of the materials, when each instance of a group represents the class.
(Cognitive Styles Task Test)

(750)

Categorization Styles (Pupil)

The pupil's styles of categorization include the following:

1. Descriptive*
2. Relational- Contextual*
3. Categorical- Inferential*

(Cognitive Styles Task Test)

(750)

Categorize

The pupil puts objects into groups, then subdivides them again into smaller groups according to the teacher's or his own criterion.

(917)

Caution (Pupil)

The pupil's tendency to avoid taking a risk.
(Social Studies Inference Test)

(792)

Central Control Technician

An auxiliary staff member who is assigned to manage automated electronic teaching devices and supervise the closed-circuit television and other programs produced in the production center.

(1002)

Chairman, Functions of in Group

The functions of the group chairman are to:

1. Establish free, permissive, informal atmosphere: accept all comments; call on all members; keep few from dominating meeting; encourage flow from member to member, rather than through chairman
2. Clarify issue: ask individual to restate question or define terms; restate question himself, asking originator if this was meant
3. Keep on topic: state points made by both sides; point out how a contribution relates to a topic; ask if group wishes to explore new issue, or table it.
4. Summarize discussion: outline discussion; review what has been stated; keep notes on chalkboard; point out accomplishments in terms of stated goals
5. Keep order: ask questions which will keep attention of all; eliminate extraneous noises; step in when several people speak at one time
6. Watch individual reactions: note which members are listened to; ask questions that define areas of agreement; analyze flow of discussion to determine if all are participating, if seating arrangement should be changed
7. State conclusions reached, and ask members if statements are correct

(370)

Change, Acceptance of (Teacher)

Teacher shows acceptance of change by using new program, method, materials, etc.

(370)

Change, Based on Evaluation

The administrator collects facts, makes judgements with the staff using agreed-upon criteria and plans for revision in terms of judgements made.

(370)

Changing Classes

Students move from one classroom to another for each subject, and/or are instructed by a different teacher for each subject.

(215)

Checking (Teacher)

The teacher is checking when he raises a particular kind of question with the pupil group or individual pupil to gain information which he doesn't have, tests the interest of the pupil group or individual pupil or checks pupil's work.

(429)

Checking, Routine (Teacher)

The teacher's checking is routine when the question he asks is inherent or established in the situation. This is in the ongoingness of a situation such as roll call, or taking the lunch count.

(429)

Child-Centered Teacher

A child-centered teacher demonstrates the following behaviors:

1. Encourages growth of self-understanding in children through various media
2. Directs emotional drives expressed by children into constructive channels
3. Works to divert and re-channel potential anti-social behavior
4. "Arranges" that children needing certain contacts or work get onto the appropriate committee
5. Permits discussion on class behavior problems stimulating class to reach decision as to acceptable behavior
6. Maintains emotional control in the classroom
7. Understands children's interests
8. Considers children's interests in planning classroom activities
9. Is interested in and knows something about children's out-of-class behavior
10. Saves "free" time during school day for consultation with children
11. Announces availability for teacher-child conference
12. Is objective in resolving problem situations
13. Criticism is phrased in terms of the efficacy of child's action in relation to problem at hand
14. Gives children a chance to voice their "gripes" in relation to the class and teacher
15. Admits not knowing answers and helps students to find them.
16. Accepts criticism of herself
17. Admits responsibility for own act that is inconvenient, unjust or unfair to another
18. Provides for physical comfort of students in classroom
19. Is aware of particular problems in the class

(424)

Clarification of Pupil's Personal Problem (Teacher)

The teacher serves to clarify a pupil's personal problem when he makes a response to what has happened that is personal and intimate rather than dealing with the content. The content may be an element of the classroom in teacher action but the teacher's response is personalized. (429)

Clarification of a Procedure (Teacher)

The teacher clarifies a procedure when he makes a response to a student to indicate how, what, or when something is done. It is not the original regulation, but the procedure that had been established previously and is now further explained or recalled for the student. It is procedural though it may implement content. (429)

Clarification through Generalization (Teacher)

The teacher clarifies through generalization when he makes an explanatory statement in which he abstracts a single generalization from the data given in the classroom situation. The teacher's clarifying statement is in response to the larger context of a discussion or problem. (429)

Clarifies (Teacher)

The teacher clarifies when he makes a direct response to something that is said or done by the student in the classroom. The teacher's response elaborates the content to the pupil. (429)

Clarifies in Personal Manner (Teacher)

The teacher serves to clarify a problem in a personal manner when he makes a response to what has happened that is intimate rather than dealing with the content. (450)

Clarity (Teacher)

The teacher presents the subject matter. The students make no further requests of the teacher to repeat the material presented or explain the material more thoroughly. Discussions in the classroom are completed by teacher with no further requests by the students to re-open discussion. Students do not request teacher to give further interpretations, explanations, hypotheses or theories.

(479)

Clarity of Discipline (Teacher)

The teacher displays clarity of discipline by any of the following behaviors:

1. She defines the misbehavior that she wants the child to stop
2. Gives the child an acceptable standard of behavior by telling him what is the right thing to do, or directs the child to stop the misbehavior

(440)

Class Size

1. 20-25 students per class is upper limit of small classes
2. 20-30 students per class is an average class
3. 30-35 students per class is lower limit of large classes

Classification

Pupils put objects or phenomena into groups using their own criteria.

(602)

Classroom, Enclosed

An enclosed classroom is one in which the area is completely enclosed within doors and walls.

(1004)

Classroom, Open

Open classrooms are those which do not have complete acoustical or visual barriers between units. There may be either no doors or corridor walls, or there may be no walls between classrooms.

(1004)

Climate Control Cost

Climate control cost is the amount of money spent to operate the heating and cooling equipment.

(1006)

Climate-Controlled School

In a climate-controlled school, the temperature (all seasons) is maintained between 70-77° F. and the relative humidity is maintained between 60-69%.

(1006)

Climatic Variables, Principle

Principle climatic variables which affect pupil comfort are temperature (dry bulb thermometer), radiant heat, relative humidity and air flow.

(1006)

Climatic Variables, Principle, Measurable and Controllable

Principle climatic variables which are measurable and controllable are: temperature- measurable and controllable through a heating-cooling system, and relative humidity which is measurable, but not directly controllable.

(1006)

Closed Climate

In the prototype of the closed climate:

1. The group members state they feel little or no satisfaction either of task-achievement or social-needs. ESPRIT* is low*
2. The teachers are DISENGAGED* to a high degree: they do not work well together, nor do they feel a sense of purpose
3. There are numerous reports and housekeeping duties assigned, with few facilitating procedures supplied by the principal (high* HINDRANCE*)
4. The teachers maintain an average degree of social contacts and personal relationships, (INTIMACY*). The turnover rate of teachers is consistently above the average for the community
5. The principal uses printed directives and regulations in controlling and directing the activities of the teachers (high* ALOOFNESS*)

6. The principal emphasizes production, and frequently says "We must work harder." His rules and regulations tell how things are to be done- he allows no changes (high* PRODUCTION EMPHASIS*)
7. The principal has little THRUST*: he does not set an example by working hard himself
8. The principal is not concerned with the personal needs of teachers, does not try to help them with their problems (low* CONSIDERATION*) He expects teachers to initiate, but refuses to give them the power to make decisions (326)

Closed Structuring (Teacher)

The teacher is using closed structure when he limits the pupils' response to one precise answer. Structures which call for "yes" or "no" answers are closed. (429,450)

"Cloze Procedure"

The "Cloze Procedure" consists of deleting significant words from a text read by the student. (889)

Cluster, Teacher

Four teachers are assigned to cooperatively plan for and instruct 66 pupils in 3 home rooms of 22 each. (144)

Cognitive Functioning, Required for Reading Readiness

The pupil's cognitive functioning required for reading include:

1. Concept Identification* (737)
2. Memory* (737)
3. Mental Capacity* (702)
4. Quality of Relationships Stated* (737)

Cognitive Goals

The cognitive goals consisted of the following:

1. knowledge*
2. comprehension*
3. application*
4. analysis*
5. synthesis*
6. evaluation*

(464)

Cognitive Growth (Pupil)

This was determined by the difference between the pre and post test scores pupils obtained on the Test of Your Ability to Think, which was a composite of the tests listed below. The test measured the pupil's use of the following thinking processes:

1. Comparison and analysis* (Identical Forms Test)
2. Comparison, analysis and induction* (Letter Sets Test)
3. Divergent production* (Seeing Problems Test and the Utility Test)
4. Convergent production* (Word Arrangement Test)
5. Creativity* (Symbol Production)

(457)

Compliance (Pupil)

The pupil acts in accordance with teacher's opinion and direction.

(373)

Comprehension

The individual knows what is being communicated and can make use of the material or idea being communicated. He may not necessarily be able to relate it to other material or see its fullest implications.

(457)

Cold Teacher

The cold teacher demonstrates the following behaviors:

1. Does not praise students or approve their work
2. Does not call upon silent students to participate
3. Does not ask questions of individual students but directs all questions to the class in general
4. Makes no attempt to recognize individual students or to get to know individual students by directing specific questions to them.

(479)

Communications, Home-School

Home-school communications are any written, telephone, or personal contacts from the home to the school or from the school to the home. (28)

Comparable Elementary Schools

Criteria for judging schools as comparable elementary schools were:

1. Students' average intelligence quotient was 116 (Detroit Group Intelligence Test)
2. The socio-economic level of pupils was equal
3. The average training and experience of teachers was matched
4. The same amount of time was devoted to reading instruction (240)

Comparison

Pupil states likenesses and/or differences between two or more objects or phenomena. (776)

Compliance of Pupil, Pressure to Produce

The teacher takes the following steps to produce compliance:

1. Applies sanctions in the room (isolates child, scolds child, takes away a privilege)
2. Sends the child away from the class (to the hall, the coat-room, to another room)
3. Sends the child to the office (asks principal to talk to child, punish him, etc.)
4. Call upon the family for support (asks parents to assist by applying sanctions at home: scold child, punish child, remove a privilege, etc.) (339)

Compliance of Teacher, Pressure to Produce

The principal takes the following steps to produce compliance:

1. Mildly reprimands teacher in a brief talk
2. Holds a long discussion (½ hour or more) with the teacher, usually concluding with a specific order
3. Talks with superintendent about the teacher, stating his complaint regarding his non-compliance
4. Goes to the School Board to state complaint and ask for more power to force compliance

Complying Administrative Style

The principal whose administrative style is complying:

1. Makes concluding decisions or takes terminal action
2. Follows lead by subordinates or superiors
3. Follows pre-established procedure
4. Communicates by writing
5. Gives directions, suggestions, or information to subordinates
6. Treats subordinates informally (calls by first name, etc.)
7. Involves a number of subordinate groups

(339)

Concept Identification, Reading Readiness

The pupil's identification of concepts required for reading include:

1. The pupil states the meaning of such terms as neighbor, friend, high, empty, and hurry
2. The pupil counts 4 or 5 objects
3. The pupil identifies red, yellow, blue, green, brown, and black
4. The pupil states some family relationships and describes such terms as brother and sister

(737)

Conceptual Analysis (Administrator)

The principal generalizes from a specific case and sees additional implications of the problem, or sees the problem in relation to a larger situation. (i.e.: questions the effect of an action on morale or public relations)

(332)

Concrete Materials

These are objects used by the pupils which have simple and uniform shapes such as circles, triangles, squares, blocks, and rods.

(602,604)

Concrete and Pictorial Representations

Teacher gives students materials and pictorial representations of materials which differ widely in color, shape, and size.

(600)

Conferences, Facilitating Conditions

Conference conditions are facilitative when:

1. Conferences are scheduled with definite purposes
2. The administrator reviews data and examines possible solutions before the meeting
3. An informal atmosphere is established by using first names, providing ash trays, coffee, etc.
4. The place of the meeting is quiet-the secretary is instructed to permit no interruptions
5. The time and duration of the meeting are decided together
6. The conference ends with a definite conclusion, i.e.: a statement of the facts agreed upon, a tentative solution, an outline of steps to be taken
7. The agreed-upon items are recorded for further reference

(370)

Confidence in Principal (Teacher)

The teacher indicates her confidence in the ability of principal to:

1. Help in problem situations (difficult problem, problem-groups of students, single problem student, making professional decision, staff's having an educational problem, pressure from outside groups)
2. Treat her professionally (principal's actions and words indicate he regards teachers as professionals, principal makes fair and reasonable distribution of work loads

(320)

Confirmation

Student material is programmed so that the response term is shown after the opportunity to respond. After the child has written his answer, it is "confirmed" by the presentation of the correct answer.

(876)

Confirmation Characteristic, Response-Centered Program

Response-centered programers consider the confirmation as "reinforcement" which is defined as an event which requires a response from the student. This response is noted as correct or incorrect.

(876)

Confirmation, Intermittent

Material is programmed so that confirmation (the child writes his

answer, it is "confirmed" by the presentation of the correct answer) is omitted either after fixed numbers of items or after variable numbers of items.

(876)

Confirmation, Stimulus-Centered Program

Stimulus-centered programers consider the confirmation as "feed-back"* which provides the learner with information about the results of his response.

(876)

Conformance (Pupil)

Conformance is demonstrated when the pupil acts in accordance with teacher's directions concerning the details of a class activity, accepts the teacher's threat, warnings and punishments, and does what he is told.

(375,424)

Conformers, Pupil Personality Profile

Conformers were children whose behaviors were characterized by:

1. Incorporation of and conformity to adult standards*
2. High social orientation*
3. Strict control of impulses, particularly of hostility*
4. Emphasis on mature behavior*

(Assessing Children's Feelings)

(424)

Conformity to Adult Standards (Pupil)

Pupils accept adult standards and perform as authority figures dictate.

(424)

Consideration Behavior

Consideration behavior of a principal is indicative of friendship, mutual trust, respect, and warmth in the relationship between the leader and members of his staff. The principal:

1. Helps teachers solve problems
2. Stays after school to help teachers finish their work
3. Helps staff members settle minor differences
4. Allows teachers to help select materials, etc.

(344)

Consideration, Negative Leader Behavior

Lack of consideration is demonstrated when the leader:

1. Refuses to compromise a point
2. Speaks in a manner not to be questioned
3. Asks for more than members of the group can get done
4. Insists that everything be done his way
5. Rejects suggestions for change
6. Changes the duties of people without talking it over with them
7. Resists changes in ways of doing things
8. Refuses to explain actions
9. Acts without consulting the work group
10. Is slow to accept new ideas

(366)

Consideration, Positive Leader Behavior

The leader shows consideration when he:

1. Does personal favors for people in the work group
2. Helps people in the work group with their personal problems
3. Backs up actions of members of the work group
4. Treats members of the work group as his equals
5. Criticizes a specific act rather than a particular member of the group
6. Puts into operation suggestions made by people in the work group
7. Is willing to make changes
8. Gets approval of the work group on important matters before going ahead

(366)

Consideration (Principal)

The principal:

1. Helps teachers solve problems*
2. Does personal favors for teachers
3. Stays after school to help teachers finish their work
4. Helps staff members settle minor differences
5. Allows teachers to help select which courses will be taught
6. Tries to get better salaries for teachers

*key item (Organizational Climate Description Questionnaire)

(326)

Consistent Teacher

The following actions are indicative of consistent teacher behavior. The teacher:

1. States a definite point of view in regard to educational

which he follows

2. Writes his lesson plans tying the classroom instructional objectives to the over-all educational objectives of the school
3. States his disciplinary standards and follows through in his actions
4. Sets clear, workable limits
5. Demonstrates confidence in his ability by making firm decisions and acting upon them
6. Maintains stable relationships with children as demonstrated by his classroom behavior

(424)

Constructing Process by Pupil

The constructing process by the pupil involves generating a drawing which identifies a designated object or set of conditions. Given a line segment, the pupil is requested to complete the figure so that it represents a triangle.

(743)

Constructive Pupil

Constructive pupils are characterized by the following behaviors:

1. Pupils appear eager to cooperate with teacher's request
2. Pupils are quiet during teacher's explanations
3. Children are not aggressive toward each other in their actions
4. Children are cooperative with and friendly toward teacher
5. Children do not block progress toward a goal by excessive competitiveness
6. Children cooperate and share ideas
7. Children contribute to solving own problems
8. Children contribute to solving another's problem by offering ideas and suggestions
9. Children express appreciation of another child's efforts by their statements

(424)

Constructive Work Output (Pupil)

This was determined by the amount of time the child spent in productive work.

(445)

Context, Use of (Pupil)

Pupil uses meaning and sense of other words in a sentence to read a new word. (727,917)

Control (Administrator)

The administrator takes precautions to ensure that the people in an organization act in ways that will gain the goal. (317)

Control of Impulses, Particularly of Hostility (Pupil)

Pupils remove emotional tone from all situations, gravitate toward neutrality, contain their hostility* and rationalize it. (Assessing Children's Feeling) (424)

Control Over Decision-Making (Teacher)

The teacher made all decisions and did not give the children a choice as to what they wanted to to. (990)

Controlled Climate

In the prototype of the controlled climate:

1. The chief characteristic is the press for task achievement at the expense of social needs satisfaction. (Everyone works hard; there is little or no time for friendly chats or coffee meetings.) There are definite established controls and directives which everyone follows
2. ESPRIT* is slightly above average* due to job satisfaction-the task accomplishment is high
3. The teachers do not bicker, gripe, or differ with the principal's directions. They expect to work, and to be told how to get the job done (low* DISENGAGEMENT*)
4. There is an excessive amount of paper work, routine reports, etc. (high* HINDRANCE*), leaving little time to establish friendly relations or discuss personal matters (low* INTIMACY*)
5. Teachers describe the principal as dominating and directive; i.e.: he allows little departure from the rules and insists that everything be done his way (high* PRODUCTION

EMPHASIS*)

6. He is somewhat ALOOF*; he publishes directives (rather than confronting individuals personally), and uses these to standardize the ways in which specific tasks are accomplished
7. He does not seek to fill the social or personal needs of individuals (low* CONSIDERATION*)
8. He has average* THRUST*, tries to make the organization work hard, and personally checks to see that work is proceding along the lines of his directives. He delegates few responsibilities, keeping all leadership roles for himself

(326)

Controlled Reader

An electromechanical device used in the teaching of reading which displays words, sentences and paragraphs at a rate fixed by the teacher.

(671)

Controlling Dimension of Teaching Strategy

This dimension encompasses the verbal operations the teacher uses to guide and control the participation of students in performing operations on the content. The teacher uses the control dimension when he presents the students with a series of question which tend to prevent exploration of the matters in hand and which step-by-step narrows down the possibility of responses until the student is finally driven to an answer which the teacher had predetermined in his own mind. The teacher may use the control dimension by raising a question for which there is no correct answer and welcome many student replies and check the students' reasoning as they continue their discourse by making evaluative statements regarding the students' responses.

(477)

Coordination (Administrator)

The principal makes specific attempts to arrange activities so as to promote efficiency, or to avoid conflict, or to produce interlocking between two activities which would otherwise be independent. i.e.: He circulates a letter or other document for information to people who are not directly concerned with its contents, but might need to know about it.

(333)

"Core" Groups

Students in grades 5 and 6 are grouped into random, heterogeneous sections for instruction in a combined language arts-social studies program. (233)

"Core" Teacher

Each "Core" teacher instructs two random, heterogeneous groups (in half-day sessions) in language arts and social studies. (233)

Correction Procedure, Programmed Instruction (Pure-Part Method)

A student is required to make a correct response before he is allowed to proceed to the next item in a programmed lesson. (889)

Courage to Fail (Administrator)

The principal risks failure by deliberately joining in a major organizational change, by tackling controversial issues, by giving demonstration lessons, and/or by leading in-service workshops. (284)

Creative Ability (Teacher)

A measure of the extent to which the individual was able to produce many divergent ideas related to objects or events.
(Myer-Briggs Type Indicator- N or Intuition Scale) (391)

Creative Thinking Emphasis (Teacher)

A teacher who emphasizes creative thinking exhibits the following behaviors.

1. The teacher encourages creative use of materials and of situations by children
2. The teacher thinks up original ways of introducing rountine assignments
3. The teacher uses creative activity in language arts, such as dramatizations, choral speaking, puppetry and creative writing

4. He works to get children to answer their own questions
5. He promotes discussion to get children to conclude why something happens rather than giving direct explanation
6. He raises some questions which have no unique answer
7. He encourages children to experiment
8. He encourages initiative and originality
9. He asks thought-provoking questions
10. He encourages pupils to call on other school staff for special assistance
11. He presents problems that challenge pupils' imagination
12. He provides opportunities for experimentation in the classroom
13. He encourages pupils to carry out individual projects outside of school
14. He shows personal excitement for new ideas and knowledge
15. He helps each child to point up his main contribution
16. He encourages pupils to challenge old ideas with new ones

Creativity (Pupil)

The pupil produces work to which he adds and/or subtracts and/or rearranges parts to produce a whole which is new or novel to him.

(866)

Critical Thinking (Pupil)

Pupil interprets what is presented in a situation and formulates judgements regarding the validity of interences from this data.
(Social Studies Inference Test)

(792)

Critical Thinking Method

This approach focuses on the tools rather than the attitude of critical thinking. Emphasis is placed on teaching the pupils the principles of logic and experimentation and their use.

(413)

Criticizes or Justifies Authority

The teacher makes statements intended to change student behavior from a non-acceptable to an acceptable pattern. He bawls someone out, states why he is doing what he is doing and uses extreme self-reference.

(373,404,405,411,442,450,459)

Cultural Background (Teacher)

The teacher's knowledge in the areas of history, literature, science, fine arts and mathematics was measured.
(Cooperative General Culture Test)

(402)

Cultural Electives, Dual Progress Plan

The cultural electives are art, music, mathematics and science, those subject fields where no specified degree of competence is required of everyone.

(126)

Cultural Electives, Samoset Dual Progress Plan

The cultural electives are areas in which the average citizen needs only a general knowledge: science, mathematics, art, music.

(161)

Cultural Imperatives, Dual Progress Plan

The cultural imperatives are the communication skills: speaking, reading, comprehending, writing; and knowledge of history, government, citizenship. These are usually referred to as the English and social studies curricula. They are required subjects for all students.

(126)

Cultural Imperatives, Samoset Dual Progress Plan

The cultural imperatives in this plan are language arts, social studies, and physical education, chosen as "areas in which all members of society need to be very proficient."

(161)

Curriculum Center

A centrally-located area in which audio-visual materials are stored, and/or produced, and from which (through closed circuit television and audiotapes) library materials, films, tapes, programmed materials, etc. are distributed to all areas of the building.

(1002)

Day-to-Day Flexibility (Learning Space)

Learning space may be changed daily or weekly to accomodate changes in class size or activity. Changes in placement of heavy furniture and equipment usually require custodial help and are accomplished after class hours.

(1003)

Decision-Making Patterns

The principal has three patterns of decision-making at his disposal:

1. A decision is made by him alone, based on his own training and experience and made effective on the basis of the authority vested in him
2. A decision is made by the principal after seeking advice and counsel from staff or community. (It must be clear that the decision will not be bound by advice)
3. A decision is based on group action by a group that includes the principal, or by a group designated by him. It is the leader's duty to accept the decision so made and use his authority to put it into effect

(372)

Decision-Making Process

In the decision making process, the administrator:

1. Discovers and defines problems (goals and tasks) and assigns priority for their completion
2. Searches for (finds or invents) alternative courses of action and information which can be used to evaluate them, tests proposed alternatives to choose one for adoption or postpone making the choice
3. Clarifies the meaning of the choice for those who are to help put the commitment into effect, elaborating new tasks or decision problems that the commitment leads to
4. Examines the results of commitments and actions, identifying new tasks, and assisting the organization in learning to make decisions

(306)

Decision-Sharing

Teachers are accorded a high degree of responsiblity in formulating policy recommendations, and their recommendations carry significant weight in the final decisions.

(304)

Deduction

The student begins with a given principle organization and uses it to arrive at a specific fact.

(457)

Deference Need

The personality structure of the individual includes a need to admire and follow a superior.

(979)

Democratic Leader

This democratic leader:

1. Endeavors to share decision-making with group about work planning, assignment and scheduling
2. When a decision must be made by him, he helps the group understand the basis of his decision
3. He is careful to develop participation, opinion-giving, decision-making; a feeling of responsibility for the success of the undertaking on the part of each member
4. He is concerned that each employee understand his work and have opportunities for success in it
5. His praise and criticisms are in terms of the work done, not what he likes or dislikes
6. He encourages suggestions, and the development of new procedures

(309)

Democratic Official Leader

Although he has received his position through appointment or examination, the democratic official leader states, in clear terms to his entire faculty his belief that the school should be judged by its contribution to the community in which it exists. Through discussions at faculty meetings he knows the beliefs of faculty members. He states his understanding of his position as:

1. Helping others define what they are going to do
2. Thinking with them about ways of doing it
3. Assisting them in executing their plans
4. Evaluating results with them

These goals are carried out through short, frequent meetings with the entire faculty or with small committees. He does not

consider himself superior to the group. He does not make policy decisions without consulting with members of the staff. He accepts and carries out the responsibilities delegated to him, and expects that other staff to do the same.

(370)

Demonstration Method

The teacher utilizes any of a variety of materials, charts, pictures, blackboard, in order to present concrete illustrations of the content to be learned.

(413,429)

Demonstration, Silent (Teacher)

Teacher stands in view of children and illustrates objects, phenomena, or occurrences, without commentary.

(917)

Dependence (Pupil)

The pupil who is dependent proceeds in a given activity only upon receiving the teacher's directions. The pupil is primarily concerned about whether his method is what the teacher wants and less concerned with whether his method will solve the problem. This dependent behavior is recognized when students unnecessarily check their work with the teacher to make sure they are on the right track, check their work before going on to the next step or solicit teacher approval more often than is necessary.

(373,375,405,409)

Dependence, High (Pupil)

The pupil voluntarily seeks additional ways of complying to the authority of the teacher at all times. The pupil complies to the teacher's expressed wishes and even anticipates the teacher's wishes as demonstrated by the pupil's actions.

(405)

Dependence, Medium (Pupil)

The teacher provides direction to initiate and guide activities, but the pupil does not voluntarily solicit it. When it occurs, the pupil complies.

(405)

Dependence, Low (Pupil)

The pupil responds to teacher directions, if they occur, but the pupil's present activity, usually teacher-initiated, is carried on without continued teacher direction. In the face of difficulties the pupil states a preference for teacher's help.

(405)

Descriptive Categorization (Pupil)

Children group objects, animate and inanimate, on the basis of their manifest observable characteristics.
(Cognitive Styles Task Test)

(750)

Development of Content (Teacher)

The teacher developes content by stating the structure of the problem under consideration and by providing data from which pupils will generalize. Sub-groups of "teacher developes content" are:

1. The teacher serves as a resource *
2. The teacher stimulates *
3. The teacher turns the structure back *
4. The teacher clarifies *
5. The teacher evaluates *

(429)

Direct Teacher

The direct teacher demonstrates the following behaviors:

1. Lectures *
2. Gives directions *
3. Criticizes or justifies authority *

(373,404,405,411,442,450,459)

Directive Administrative Style

The principal whose administrative style is highly directive:

1. Takes leading action rather than making plans for action.
2. Gives directions or suggestions.

3. Involves a number of subordinates.
4. Communicates by writing rather than by telephone.

(332)

Directive Teaching

In directive teaching the teacher demonstrates the following behaviors:

1. In working on the content, the teacher provides focus by use of structure without orient *
2. The teacher structures without public criteria *
3. The teacher develops the lesson by use of closed structure *
4. The teacher uses structure-intervening *
5. The teacher informs *
6. The teacher evaluates positively or negatively without public criteria *

(450)

Directs (Teacher)

The teacher gives directions, commands or orders with which the student is expected to comply.

(373,404,405,411,442,450,459)

Disadvantaged Children

Disadvantaged children are members of families whose total income for 4 persons is $3000 or less, plus $400 for each additional person beyond 4.

(179)

Discipline

The control exercised by a teacher over a pupil or group of pupils. This control is demonstrated by the habit patterns of the pupils that cause them to act promptly and consistently in the manner prescribed by the teacher.

(457)

Discipline, Firm (Teacher)

The teacher's discipline was described as firm, when, in correcting a misdemeanor, he displayed one or more of the following behaviors:

1. He spoke emphatically to the child
2. He walked close to the child
3. He touched or guided the child
4. He focused his attention steadily on the misbehaving child until the child conformed

(440)

Discipline, Infractions of Rules

A student is reported to the school's disciplinary officer for cheating, stealing, smoking, chronic tardiness, unofficial absence, using profanity, fighting, insubordination, running, destruction of school property, throwing objects, poor conduct on bus, and abusing privileges.

(1006)

Discipline Problems

Children do not follow teacher's directions in the classroom, and/or exhibit a variety of behaviors which disrupt the instructional program.

(184)

Discipline, Types of Infractions

Infractions have been grouped into types:

1. Aggressiveness toward persons of things (abuse of privileges, bus misconduct, destruction of school property, disregard for other students, fighting, insubordination, throwing objects, trouble in cafeteria)
2. Withdrawal from school (AWOL, irregular attendance, chronic tardiness)
3. Status-seeking (smoking, profanity)
4. Dishonesty (cheating, stealing)

(1006)

Discovery (Pupil)

The pupil finds and states a relationship or pattern of events or objects and uses it by showing an example of the pattern.

(608)

Discussing Before Taking Action Administrative Style

The principal whose administrative style is discussing before taking action:

1. Schedules work, without specifying time
2. Makes plans (tentative or definite only, does not take terminal action
3. Discusses work with subordinates, superiors and/or outsiders
4. Communicates face-to-face
5. Initiates a new structure or arrives at a plan for deciding
6. Requires further information for deciding
7. Involves a number of subordinate groups
8. Follows lead by subordinates or superiors

(332)

Disengagement (Teacher)

Teachers state that the mannerisms of other teachers at the school are annoying*, that there is a minority group which always opposes the majority.

1. Teacher groups exert pressure on non-conforming faculty members
2. Teachers seek out special favors from the principal
3. Teachers interrupt each other in faculty meetings
4. Teachers ask nonsensical questions and/or ramble during meetings
5. Teachers stay by themselves, or socialize in small, select groups
6. Teachers talk about leaving the school system

(Organizational Climate Descriptionnaire)

(326)

Disinterested Pupil

Disinterested pupils demonstrate the following behaviors:

1. Children appear tense; give evidence of restlessness (shift around in seat)
2. Children show signs of aversion towards a particular activity (facial expression)
3. Children appear bored (yawn, much whispering, etc.)
4. Children become involved in private conversations
5. Children do not contribute to ongoing activity
6. Children do not actively integrate with the ongoing activity (i.e. are not alert to errors, possible slips, etc.)

(424)

Discussion Method

The discussion method is characterized by the following practices on the part of the teacher and the pupils:

1. Most of the time is spent by the pupils talking
2. Pupils talk about content and may continue their discussion in terms of their own contributions, rather than limiting their discussion to the information presented by the teacher
3. Actual practices vary from a largely unstructured situation in which the teacher plays a noncommittal, mediating role to one in which the instructor asks and answers questions
4. Varying degrees of student control of class activities are found

(459, 1000)

Distraction (Pupil)

Pupils are distracted when they do not work at their tasks consistently, or when their attention changes from their present tasks to occurrences in the classroom which are not directed specifically at them.

(404)

Disturbed Authority Relationships

Children who are characterized by disturbed authority relationships views adults as demanding, coercive, hostile and actively punitive. (Assessing Children's Feelings)

(424)

Divergent Production

Student identifies, selects, or arrives at alternatives to any given principle or problem.

(457)

Domesticated Organizations

Organizations such as the public schools, prisons, state mental institutions, reform schools, where participation is mandated by law with neither the officials nor the participants having a choice in who is to participate. Such organizations are protected

by the society they serve: funds for their operation are provided with little reference to the quality of performance, and they rarely go out of existence because they are necessary to the maintenance of the social system.

(298)

Dominating Leader

The dominating leader is characterized by the following behaviors:

1. He directs and rates teachers based on his subjective judgment
2. He does not permit his ratings to be questioned
3. He defines authority as "power over" others (He uses this power to get people to do things)
4. He delegates responsibilities to staff members. If responsibilities are not carried out, he punishes through reprimand, decrease in authority, failure to receive salary increase, and (if offense is considered by him to be extreme) replacement
5. He may use other teachers to report infractions of the rules

(370)

Dominative Teacher

The dominative teacher demonstrates the following behavior:

1. The teacher determines a detail of activity in conflict with child
2. Relocates child, directly refuses child's request
3. Evades a child's protest of complaint
4. Uses disapproval, blames or shames, gives warnings, threats.
5. Calls group to attention
6. Punishes child by sending him out of room, keeping him after school, deprives child of specific material, activity, right or privilege

(374)

Dual Progress Plan

An organizational plan in which students in grades 3-6 or 4-6 are grouped by age-level for English and social studies, and by multi-grade ability and achievement (as determined by standardized test scores and teacher judgment) for art, music, science, and mathematics.

1. Each subject is taught by a specialist teacher who has had a specified number of semester hours preparation in the subject, who states that he likes to teach the subject, and who knows how to teach the subject to young children
2. Advancement is non-graded in art, music, science and mathematics. Promotion is based on achievement in language arts and social studies

(126)

Dual Progress Plan (Samoset Modification)

Pupils is grades 4, 5, and 6 are organized into random, heterogeneous groups. Teachers are assigned as follows:

1. Language arts-social studies
2. Science-mathematics
3. Music-art
4. Library
5. Physical education

Two ability groups are organized at each grade level, based on subjective teacher judgment. -One group is scheduled for the cultural imperatives (language arts-social studies), while the other group attends classes on a non-graded basis in the cultural electives (science, mathematics, library, art, music, physical education).

(126)

Early Childhood Program

A four or five year sequence of pre-kindergarten, kindergarten, and grades one and two.

(179)

Edison Responsive Environment Instrument

The key features of the E.R.E. instrument are:

1. The student depresses a key- the instrument pronounces the letter and records it on paper in extra large type
2. Once a key is depressed, no other key can be depressed until audio-pronunciation is made
3. Audio-response is delayed for pupil response
4. The pointing mechanism can be expanded from letters to words to sentences
5. Letters can be encoded- that key is the only one that can be depressed ("Trial & Success" method)
6. The instrument will point, pronounce and spell the word which has been typed when space bar is depressed (885)

Educational Viewpoints (Teacher)

The teachers' viewpoints were measured with respect to:

1. Curricular organization and scope
2. Course planning and classroom procedure including pupil participation in these activities
3. Academic achievement standards
4. Diversion of teaching and administrative responsibilities
5. Parent participation in the educational program

The teachers' viewpoints were seen as points on a single continuum. The teacher, whose viewpoints lie at one end of this continuum, appears to believe in strong emphasis upon academic subject matter and academic achievement and in the teacher's responsibility for determining what shall be learned and how it shall be learned. At the other end of the continuum is the teacher who appears to believe that other educational objectives are equally or more important than those of an academic nature, that pupils and parents should participate actively in planning and conducting the class and school program, and that subject matters should be integrated among themselves and also with out-of-school activities.

(Ryans' Educational Viewpoints Inquiry)

(471)

Effective-Appropriate Materials, Use of (Teacher)

Teachers utilize appropriate materials effectively when:

1. Materials around room reflect a cross-section of America's ethnic and socio-economic groups
2. Varied materials are used in reading other than texts and work books
3. Classroom appearance reveals care and planning, (bulletin boards, displays, etc.)
4. Use of a variety of interest level materials for motivation
5. Distribution of appropriate duplicated materials
6. Resource materials are available when needed (films, slides, etc.)
7. Reference and other resource material readily available
8. Special books and supplementary reading available
9. Teacher obtains and distributes materials offered by industrial and government agencies
10. Bulletin boards and files contain appropriate materials for current units of instruction
11. Pupils encouraged to bring resource materials from home
12. Provision for tests and reviews are needed
13. Has enough materials for all children or sees that the children take turns
14. Teacher has materials distributed and collected quickly
15. Materials integrated with lesson; can be handled by the children

(424)

Effective-Appropriate Methods (Teacher)

The teacher uses effective, appropriate methods when he performs in the following ways:

1. Gives clear directions on how to set up work before children start
2. Explains what is to be accomplished. States goals clearly
3. Explains how the immediate work fits with part work and projects, also into future work
4. Makes assignments clear. (Classroom assignments easily understood by pupils)
5. Returns pupils' work promptly
6. Makes provisions for study under supervision
7. Clearly structures pupil role
8. Evaluates children's work
9. Gives children benefit of sharing evaluation with them

(424)

Effectiveness (Teacher)

The teacher is successful in:

1. Working with community groups, parent groups, fellow staff members, school administration, individual pupils
2. Participating in school activities outside classroom
3. Identifying, developing, and defining school goals
4. Using pertinent instructional materials and aids
5. Meeting community expectations regarding personal behavior
6. Stimulating interest in learning and scholastic ambition on the part of students

(318)

Emotional Adjustment and Stability (Teacher)

The teacher's emotional adjustment and stability was measured by an inventory which measured the degree to which the individual tended to worry or show excessive concern, the ability to concentrate in a noisy environment, the satisfaction or happiness experienced in daily life and the degree of self-confidence expressed.
(Ryans' Inventory ISV)

(471)

Empathy (Administrator)

The administrator's level of empathy can be determined by Craig's Test of Empathy.

(308)

Encouraging Teacher

The encouraging teacher demonstrates the following behaviors:

1. He does not speak a great deal in class
2. He permits free and open expression by asking pupils for their opinions, interpretations, personal experiences
3. He asks broad, general questions rather than factual questions
4. He approves students' comments
5. He stimulates argument
6. He attempts to get silent students to participate
7. He promotes student-student discussions

(479)

8. Prior to the pupils' engagement in a particular act, the teacher expresses confidence in a pupil or pupil group, or makes a statement assuring them of his assistance

(429)

Endurance

The individual persists in a line of action despite difficulties.
(979)

Energetic Teacher

The teacher who is energetic speaks with enthusiasm, shows great interest in a topic by offering additional subject matter when questioned by students, replies to students' statements, speaks rapidly, listens attentively to students, and makes approving remarks to students.
(479)

Esprit (Teacher)

The teacher states that:

1. The morale of teachers is high
2. Teachers accomplish their work with great vim, vigor and pleasure
3. Teachers show school spirit
4. Custodial service is available as needed
5. Most of the teachers accept the faults of their colleagues
6. School supplies are readily available for use in classwork
7. There is considerable laughter when teachers gather informally
8. In faculty meetings, there is the feeling of "let's get things done"
9. Extra books are available for classroom use
10. Teachers spend time after school with students who have individual problems.
(Organizational Climate Description Questionnaire)
(326)

Estimates Pupils' Needs and Acts (Teacher)

Based on his own judgment and not upon a pupil or pupils' request, the teacher determines the need of an individual pupil or pupil group and he does something for the individual or based on the need.
(429)

Evading Teacher

The teacher who is evading:

1. Avoids responsibility by not making decisions

2. "Passes the buck" to the class, to other teachers, etc.
3. Fails to give adequate help to pupils: leaves them on own too much in a laissez-faire manner
4. Lets difficult situations get out of control
5. Is inattentive to pupils
6. Is cursory in her approach
7. Does not state the standards in the classroom

(424)

Evaluates (Teacher)

The teacher evaluates when he responds to the content with a statement which indicates whether the pupil's response is correct or incorrect.

(429)

Evaluates-Negative (Teacher)

The teacher evaluates negatively when he makes a response to the pupil indicating that the content is wrong or incorrect.

(429)

Evaluates-Positive (Teacher)

The teacher evaluates positively when he makes a response indicating that the content is correct.

(429)

Evaluates-With Public Criteria (Teacher)

The teacher evaluates with public criteria when he states the specifics or reasons why content of the pupil's answer was or was not correct.

(429)

Evaluates Negatively Without Public Criteria (Teacher)

The teacher responds to the pupil's answer stating that it is incorrect, but he does not state the reasons as to why the answer is incorrect.

(450)

Evaluates Positively Without Public Criteria (Teacher)

The teacher responds to the pupil's answer stating that it is correct, but he does not state the reasons as to why the answer is correct.

(450)

Evaluation

The student makes judgments about the value of ideas, works, solutions, methods, material, etc. He uses criteria as well as standards for appraising the extent to which particulars are accurate, effective, economical or satisfying. The judgments may be either quantitative or qualitative and the criteria may be either those determined by the student or those which are given to him. (457)

Evaluation, Certifying Performance

The administrator:

1. Compares the performance of the teacher with the role specification
2. Evaluates whether such performance meets the specifications
3. Has the legal power to insure performance by the teacher in accordance with role specifications. (339)

Evaluation, Cooperative (Teachers)

Two or more teachers meet and discuss their evaluations of a student's achievement. (188)

Evaluation, Principal's Skill in

The administrator who is skilled in evaluation:

1. Defines goals and establishes standards by which to judge the amount of change
2. Collects evidence of change
3. Uses his criteria in making judgments about the worth of the change
4. Assists teachers in revising plans in terms of the judgments. (370)

Evaluation (Teacher Self-Evaluation)

The teacher who evaluates himself:

1. Expresses a concern about improving his teaching
2. Checks himself on a self-evaluation check list composed of items that the staff has agreed are important

3. Uses a suggestion box, class discussion, etc., to obtain suggestions from students
4. Compares his techniques with those of other teachers whom he has observed.

(370)

Evaluation, Team Tasks

These tasks are performed by the total team, a sub-group, or an individual member and include all activities carried on for the purpose of evaluating student academic or social growth (examinations, reports, anecdotal record keeping, interviews).

(260)

Evaluation via Checklist

The official leader (principal or supervisor) observes in the classroom for periods of time ranging in length from five minutes to a total day. Details checked on the rating list may include such items as teacher posture, neatness of the room, position of blinds or shades, the extent to which the teacher follows the written lesson plan, etc.

(370)

Exchanging Information Administrative Style

The principal whose administrative style stresses exchanging information:

1. Asks subordinates for information, opinion, or advice
2. Gives information to subordinates or outsiders
3. Requires further information before deciding
4. Involves a number of subordinate groups
5. Takes a number of courses of action

(332)

Exhibition Need

The personality structure of the individual includes a need to attract, excite, or stir others.

(979)

Explains (Teachers)

The teacher shows and/or states relationship between ideas, objects, principles, etc.

(459)

Extrapolating

Given two related facts, the individual derives a third which is more precise. (457)

Eye-Motor Coordination (Pupil)

Pupil draws straight and curved lines between increasingly narrow boundaries or a straight line from one point to another.
(Frostig Development Test of Visual Perception) (936)

Facilitating Teacher

The teacher who is facilitating does many or all of the following:

1. Encourages children to display materials reflecting their personal culture, interests, achievements
2. Uses children's hobbies to motivate classroom activities
3. Allows pupils to display results of their individual talents in the classroom
4. Encourages exploration of community resources
5. Uses experiences of the child for motivation
6. Shares his own experiences of travel and reading
7. Encourages the development of hobbies
8. Guides a child to use his experience in finding the correct answer
9. Encourages children to read for fun books based on their own interests
10. Structures statements or questions which proffer information to raise questions about the problem in an objective manner with intent to facilitate learner's problem solving.
11. Helps a child to define, redefine, or advance a problem
12. Contributes to a child's understanding by offering needed information/explanation and/or by non-directive probing, or by relevent questioning.
13. Helps children change viewpoints in light of the facts without losing face
14. Foster cooperative behavior

(424)

Factual Emphasis (Teacher)

The teacher is using factual emphasis when he asks questions about facts, provides a great amount of factual information in response to a student, and spends a large percentage of time in speaking.

(479)

Fair Treatment

Fair treatment for teachers includes the following:

1. Equal pay for equal training and experience, based on a published salary schedule
2. Teaching loads (number of students, number of classes per teacher, types of classes, etc.) are equal
3. Extra curricular activities and duty schedules are discussed by total staff before assignments are made
4. A faculty-welfare committee with the power to hear grievances and recommend changes for the removal of inequalities may be established

(370)

Familiar Climate

In the prototype of the familiar climate:

1. Social needs satisfactions are very high. Everyone is friendly, and job satisfaction and ESPRIT* are average* due to social satisfactions
2. The teachers accomplish little in a task-oriented situation because the principal does not exert control over such activities and many members of the staff try to tell others what to do and how to do it resulting in high* DISENGAGEMENT*
3. There are few routine reports, and procedural helps are available (low* HINDRANCE*)
4. The teachers have established many personal friendships among themselves (high* INTIMACY*).
5. The principal does not criticize and does everything to encourage (high* CONSIDERATION*)
6. The principal's abdication of social control, however, contributes to the high* DISENGAGEMENT* of the group
7. Few rules, regulations or practices are established by the principal; there are no guides to how things should be done (low* ALOOFNESS*)
8. The principal does not emphasize production. He does not tell teachers whether they are right or wrong, nor criticize any of the tasks they are performing (low* PRODUCTION EMPHASIS*)

(326)

Feedback, Programmed Instruction

Student using programmed materials which reveal to the student whether or not he has made a correct response, after the response is made.

(889)

Feeling of Importance

The teacher's feeling of importance is enhanced when:

1. The supervisor gives recognition for good work by telling the teacher and the staff about specific contributions made by each member
2. Teachers share ideas in committees, with each idea discussed in terms of the effect it will have on the program or the student(s)
3. Teacher's opinions are listened to, and teachers are consulted by the supervisor before new practices and/or programs are adopted
4. News releases to newspapers, bulletins, etc., contain descriptions of projects

(370)

Figure-Ground Perception

The perception of geometric figures against increasingly complex backgrounds. The pupil discriminates between intersecting shapes and finds hidden figures.
(Frostig Developmental Test of Visual Perception) (937)

Flags, Nonverbal Cue, Increased Motivation

Flags (placed to catch wind currents indicate a natural element to a pupil) thus encouraging the child to investigate further. (1007)

Flexible Grouping

Within an organization based on flexible grouping, a pupil may be transferred from one group to another at any time, based on academic progress, as measured by testing, and/or teacher judgement. (194)

Flexible Grouping may mean any or all of the following:

1. Placing a child in a large number of groups
2. Varying the number of groups into which a child is placed
3. Varying the number of pupils within a group- pupils may be grouped in: a. large groups (60 or more) b. class size (30) c. small groups (3-10) d. individually (2,223)
4. The size (number), length (time) and or sequence (order) of classes changed (51)

Flexible Teacher

The teacher who is flexible demonstrates the following behaviors:

1. Meets classroom interruptions tactfully
2. Adapts time schedules to meet class needs (Flexible in programming)
3. Changes or supplements text to meet instructional requirements or his pupils
4. Altering ability groupings to permit modifications for other needs based on his own judgements
5. Includes additions to planned program without too much disruption in class activity
6. Does not establish rigid and unreasonable limits on pupil behavior
7. Remains calm and self-possessed during classroom or school emergencies
8. Knows when to avoid or delay resolving a conflict situation
9. Can "stretch" standards when exigencies of situation demand it (424)

10. Can readily shift from an indirect pattern of teaching* to a more direct pattern of teaching* or from a direct to an indirect pattern to meet the requirements of the class situation. (373)

Flexibility, Spontaneous (Pupil)

Pupil shifts his thinking rapidly.
(Unusual Uses Test) (521)

Fluency (Pupil)

The quality and speed with which a pupil thinks of ideas.
(Denny-Ives Test of Creativity in the Dramatic Arts) (868)

Focusing Method

The focusing method includes the following:

1. Asking pupils to compare and contrast
2. Calling attention to details in pictures
3. Asking students to observe characteristics common to all animals or plants in pictures
4. Requiring students to give reasons for their answers (758)

Follows Structure

The leader uses rules, regulations, procedures, policies, and/or customs in handling announcements, distributing information, filing, referring problems to existing committees or individuals whose assignment is to handle such problems. (333)

Foreign Language Background (Teacher)

The foreign language background of a teacher was rated in terms of the following criteria:

1. Number of years of formal training
2. Number of years of foreign language teaching experience
3. Workshop attendance (904)

Form Constancy Perception (Pupil)

Pupil discriminates circles and squares, in different shadings, sizes, and positions, from other shapes on a page.
(Frostig Developmental Test of Visual Perception)

(937)

Friendliness (Pupil)

Friendliness was determined by the pupils' measured gains on the Ohio Social Acceptance Scale. The following relationships between the pupils in the class were assessed:

1. Choice of very best friends
2. Desire to spend a great deal of time with specific individuals
3. Willingness to confide in specific individuals
4. Willingness to assist others in class
5. Enjoyment in working and being with others
6. Willingness to serve on committees with others

(424)

Gifted Children

1. Pupils scoring 130 or more were designated gifted children (Stanford-Binet Test) (194)

2. Pupils scoring at or above the 90th percentile on the Lorge-Thorndike Non-Verbal Intelligence Tests (682)

Goal

A goal is an end result, immediate or remote, which an individual is seeking or one which is specified or required in advance by someone directing the individual's behavior. (457)

Goal Ambiguity (Pupil)

A state of affairs in which a student either is not sure of the steps necessary to reach the goal or has an uncertain picture of the end product as demonstrated by his questions or floundering actions. (373)

Goal Clarity (Pupil)

Goal clarity is a condition in which the student states his ultimate goal and takes steps necessary for achieving it. (373)

Goal Displacement

The original goal is abandoned, and another goal is substituted. (i.e. Teachers emphasize behavior rather than school work). (298)

Goals With a Negative Pupil Valence

The pupil perceives the goal or goals as failing to satisfy his interests and/or perceives that the goals do not match his ability. He states disinterest in goal and that he does not think he is able to achieve the goal or goals. (411)

Goals With a Positive Pupil Valence

The pupil perceives the goals as satisfying his interests and as matching his abilities. He states that he is interested in pursuing the goal(s) and that he will be able to achieve the goal or goals. (411)

Grade Level (Pupil)

Grade level is the particular grade to which a pupil is assigned as determined by his age and achievement scores. (447)

Grading, Halo Effect

The high or low grade received in one subject influences teacher judgement when assigning grades for other subjects. (182)

Grievances, Provisions for Resolving

The administrator:

1. Tells staff members that he is concerned about irritating items (lack of materials, poor lighting, noise from other classes, large classes, numerous clerical tasks, many meetings, etc.)
2. Encourages teachers to report such items (in faculty meetings, through committee members, in a suggestion box, in a personal conference)
3. Inspects the school to discover such items
4. Removes as many as his authority controls
5. Explains why he cannot remove or change those not in his authority
6. Keeps his staff informed (through bulletins and at meetings) of the steps being taken (370)

Group Identification (Pupil)

The pupil assumes the behavioral roles and values of the group. He makes himself part of the group by changing his actions and conforming to the peer group code of standards and behavior, rather than expressing his own opinions and values. (433)

Group Leveling (Teacher)

1. The teacher's lesson plan makes no provision for various levels of work
2. Committee groupings do not reflect different growth rates
3. Time is not apportioned according to individual needs
4. Teacher does not individualize assignments for able pupils
5. Teacher does not provide special resource materials for particular children
6. Teacher does not use any free time in working with individual pupils
7. Teacher is disinclined to work with "problem" pupils as well as with "average" pupils
8. Teacher does not work as hard for slow and fast pupils as for "average" pupils
9. Teacher does not encourage individualized solutions to work problems and assignments
10. Teacher shows little concern for individual progress

(424)

Group Size, Discussion

For a group whose primary purpose is discussion, the optimum number is 5 or 6. With a group of fewer than 5 members feel threatened, inhibiting free response; with more than 6, participation of individuals drops.

(90)

Group Size, Large Group

A large group is one which results from combining two or more classes (35 students per class) for instruction.

(139)

Group Size, Small Group, Leadership

The teacher prepares himself in terms of the content (structures questions prior to the group session), listens to student ideas, gives students a chance to express feelings, and insists on minority viewpoint being heard.

(91)

Group Size, Task Oriented

The ideal size of the task-oriented group is the smallest number that represents all the skills designated by the group as required for the accomplishment of the established task.

(91)

Grouping, Self-grouping of Pupils, in Small, Independent Groups

The teacher allows the pupils to place themselves in small groups in which they may work making their own group decisions.

(447)

Group, Variety of Simultaneous

Small groups (3-5), individual work, teacher and 1 student, etc. working at the same time in one instructional area constitutes a variety of simultaneous groups.

(1002)

Group-Oriented Teacher

The teacher focuses on more than one person but fewer than the total class.

(459)

Guide Teacher

Each pupil is assigned a guide teacher whom parents contact for information, conferences, etc., or who contacts parents for similar purposes.

(28)

Handwriting, Sequences of Instruction

Pupils are first taught manuscript straight-sided letters, then rounded letters, then combined, then slanted and then cursive letter forms.

(852)

Height of Shelves, Non-verbal Cue, Behavior Habits

The height of shelves reminds the child, without the use of words, of behavior habits explained to him by the teacher.

1. Four feet high or lower (K) indicates child helps self to supplies
2. Above four feet indicates teacher use, or teacher permission needed

(1007)

Height of Vertical Panel or Ceiling, Non-verbal Cue, Behavior Habits

The height of a vertical panel or of the ceiling reminds the child, without the use of words, of behavior habits explained to him by the teacher.

1. High panels or ceilings indicate large group activity
2. Low panels or ceilings indicate small group activities

(1007)

Heterogeneous Group

Children are placed in groups with others who have different achievement scores and rates of learning.
(California Achievement Test, and recorded judgments of teachers)

(27)

Heterogeneous Group

The class or group reflects the normal distribution curve as to I.Q. scores and scholastic achievement on that grade.

(144)

Hindrance (Teacher)

The teacher states that:

1. Routine duties interfere with the job of teaching

2. Teachers have too many committee requirements
3. Student progress reports require too much work
4. Administrative paper work is burdensome
5. Insufficient time is allowed for preparation of reports
6. Instruction for operation of teaching aids is not available
(Organizational Climate Description Questionnaire)

(326)

Homogeneous Ability/Achievement Group

Children are placed in groups with others who have achieved approximately the same scores in reading and similar rate of learning.
(California Achievement Test, teachers' judgments)

(27)

Homogenecus Achievement Group

Students are grouped by reading achievement for reading instruction, and by arithmetic achievement for arithmetic instruction.
(Metropolitan Achievement Test, and teacher observations and judgments)

(139)

Homogeneous Group, Non-graded

Pupils are assigned to multi-age high or low ability-groups, and to separate language arts-social studies and science-mathematics groups based.
(California Test of Mental Maturity, reading and arithmetic achievement)

(7)

Hostility

The individual displays anger toward a person or group and or seeks to inflict harm upon a person or group.
(Assessing Children's Feelings)

(424)

Hour-to-Hour Flexibility, Learning Space

Learning space may be changed hourly or within a given class period to accomodate changes in class size or activity through use of moveable panels, space dividers on rollers, folding and/or accordian

partitions. These devices can be operated by the teacher (or student) in one or two minutes.

(1003)

Human Relations, Negative

The following administrator behaviors are indicative of neglect of human relations. The administrator:

1. Requires teachers to make appointments to see him
2. Keeps people waiting without stating why
3. Delays action on requests
4. Punishes teachers who go over his head in making requests by not providing needed materials
5. Does not keep promises re pay raises, assignments, promotions
6. Commands rather than requests
7. Accepts praise of his school as his personal credit

(370)

Human Relations, Positive

The administrator who fosters positive human relations exhibits the following behaviors:

1. Is friendly--smiles often, calls teachers by first names
2. Is available for conferences with all staff members without appointments, keeps his door open for imprompt conferences
3. Refuses special chairs, special cars, special dining rooms
4. Is courteous in making requests
5. Takes prompt action on requests
6. Keeps promises re supplies, assignments, promotions
7. Passes along compliments which he hears
8. Gives credit to staff members when programs at his school are complimented

(370)

Ideational Fluency (Pupil)

The rate of which a pupil can think of ideas.
(Product Improvement Test, Unusual Uses Test)

(521)

Idiographic Leader

The idiographic leader:

1. Stresses fulfilling the demands of individual's personality, need structure, and need-motivated behavior
2. Minimizes organizational requirements
3. Views authority as delegated
4. Maintains highly specific interactions with subordinates (Relationships with others are particulartistic, tailored to each personality)
5. Places major reliance on intrinsic sanctions

Efficiency (group harmony through needs-satisfaction) is his major standard of follower excellence.

(318)

Imaginative, Original Teacher

The imaginative, original teacher demonstrates the following behaviors:

1. Uses what seems to be original and unique devices to aid instruction
2. Tries new materials or methods
3. Develops presentation around a question or situation
4. Is resourceful in answering questions; has many pertinent illustrations available

(471)

Impersonal Teacher

The teacher who is impersonal demonstrates the following behaviors:

1. Makes few statements of personal opinion and few personal references
2. Makes few requests of reports of students' personal experience
3. Appears to lack interest in content by not offering additional information

(479)

partitions. These devices can be operated by the teacher (or student) in one or two minutes.

(1003)

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(479)

Improves Working Conditions

The leader plans for or takes action to provide a change in the physical setting (paint walls, increase supplies, adjust heat, etc.) or the emotional tone (provides opportunities for teachers to express opinions, arranges coffee time for teachers, etc.) of the school.

(333)

Inadequacy, Feelings of

Children display fears of not doing well. They demonstrate self-dissatisfaction in the sense that, even if something was done well, it was not done well enough.
(Assessing Children's Feelings)

(424)

Inconsistent Teacher

The inconsistent teacher displays the following behaviors:

1. His instructional emphasis is inconsistent because of lack of clear-cut educational philosophy on the part of the teacher
2. Educational objective is not clear-cut in plans of individual lessons or vary in inconsistent manner
3. In discipline, will one time condone what he condemns at other times
4. Types of behavior that are acceptable are not clear-cut to children because of variability
5. Permits special behavior to certain children on favoritism basis
6. Varies considerable in manner in which he approached child upon different occasions
7. Atmosphere varies according to mood tone of teacher so that children must rely upon subjective rather than objective criteria for behavioral standards
8. Teacher's behavior is erratic
9. Teacher is indecisive, vacillates, and seems to lack confidence
10. Alters decisions frequently

(424)

Independence (Pupil)

The pupil perceives his activities to be "self-directed" (even though the teacher may have helped create the perception) and does not expect directions from the teacher. In the face of

difficulties, the pupil prefers to try his own solution before seeking the teachers' help. If teacher direction is given, the pupil evaluates it in terms of the stated requirements of the learning activities.

(405)

Independent Activity

A student completes teacher-directed activities in reading, then selects and reads books, work on individual projects, etc. without direction from teacher.

(200)

Independent Study

1. The child is permitted to go at own rate and follow his own route determined by his stated interests
2. There is no "failure" or judgment on part of the teachers present
3. Mistakes are welcome
4. Written units used have been prepared by the consultant
5. Units are written so that children can work without teacher direction
6. Each student is on his own individual program planned by the consultant after conferring with the student

(575)

Independent Study

Students are assigned to courses on the basis of diagnostic tests. 40-90% of their time is spent in working by themselves in study booths or carrels. If help is needed, students file requests (specifying problems) for teacher assistance. Within one or two days they are called into a teaching studio with other students having same difficulty.

(163)

Indifferent Teacher Group

An indifferent teacher group is one that is disinterested, lacks purposes or goals and fails to produce.

(370)

Indirect Teacher

The indirect teacher is one who demonstrates the following behaviors:

1. Accepts, clarifies and supports pupils' feelings
2. Praises and encourages pupil behavior
3. Accepts, clarifies and uses pupils' ideas
4. Asks questions to stimulate pupils' participation in decision-making
5. Asks questions to orient pupils to school work
6. Spends a greater percentage of class time listening to pupils rather than speaking
   (Flanders' Interaction Analysis Scale)

(403, 405, 464)

Individual Attention

Pupil is instructed on a one-to-one basis by the teacher or the teaching aide.

(143)

Individual Help

Pupil asks for and receives specific help from teacher on a one-to-one basis.

(231)

Individualization of Instruction

Individualization of instruction is defined as:

Pupil is allowed to proceed through a series of materials (units) at a pace that is determined by individual abilities and interests as determined by tests, teacher observation, and pupil expression.

An analysis of pupil progress is made for each task. The teacher then specifies what learning experiences the child will engage in, and the mode of presentation (e.g. tapes, records, texts, worksheets, etc.)

(931)

Individualizing Instruction (Teacher)

The teacher individualizes instruction when:

1. He plans to provide for various levels of work
2. Pupils work in committees which reflect different rates of growth
3. Teacher provides individual plans for different students
4. Teacher provides special resource materials for particular students
5. He works with individual pupils during free periods
6. He provides for individual help during class hours
7. He helps able pupils go beyond classroom assignments
8. He spends more time with some pupils than others, according to their needs
9. He shows appreciation of pupils in terms of individual progress
10. He encourages individualized solutions to work problems, assignments and other projects
11. He works as hard for slow and fast pupils as for "average" pupils
12. Children are grouped for reading according to formal and informal tests.
13. Teacher is willing to work with "problem" pupils as well as "average" pupils

(424)

Individualized Instruction, Arithmetic

Given lists of pages and exercises to be completed at their own rate of speed without teacher assistance, the student completes and scores each exercise noting the number and percentage of correct examples. The teacher checks each page, giving instruction based on analysis of the errors.

(260)

Induction

Student arrives and states a general principle or concept from examining particulars or facts.

(457)

Ineffective-Inappropriate, Materials, Use of (Teacher)

Teachers utilize materials ineffectively and inappropriately when:

1. Little care of planning is revealed in classroom appearance
2. Materials used for motivation are insufficiently varied
3. Resources and materials are not available when needed
4. Teacher does not make provision for having available special books and supplementary reading
5. Bulletin boards are not kept up-to-date with current topics
6. Teacher fails to have sufficient materials or provide for turntaking by children
7. Distribution and collection of materials involves considerable delay
8. Materials not easily accessible to children
9. Materials not integrated with lesson
10. Uses materials of such a nature that they cannot be handled by the children
11. Little use made of outside resources to supplement available material
12. Insufficient use is made of visual aids

(424)

Ineffective-Inappropriate, Methods (Teacher)

The teacher's methods are ineffective and inappropriate when:

1. Teacher's directions are ambiguous or confusing to children
2. Teacher does not clearly define goals
3. Teacher does not explain how immediate work fits in with part work and future work
4. Teacher does not make assignments clear
5. Children's work is not returned promptly
6. Children's work is not checked
7. Pupil role in classroom not clearly structured
8. Teacher wastes time; stalls
9. Teacher is unprepared with plan for class work

(424)

Influences Affecting Choice of Teaching (Teacher)

The influences stated by the teachers which determined their choice were: entering the profession because of its intellectual nature, because they had liked school, because of the public and

social service character of teaching, because they were advised to do so by parents or relatives, or because of the attractiveness of teaching from the standpoint of desirable position in the community and favorable prospects for advancement.
(Ryans' Teacher Characteristic Schedule)

(471)

Information-Giving (Teacher)

The teacher informs when he:

1. States facts, ideas and concepts beyond the data already present in the situation which has not been requested by the students

(429, 450)

2. Demonstrates a procedure or method of acting, writing and or performing

(459)

Initial Teaching Alphabet

The Initial Teaching Alphabet (Pitman Program) utilizes 44 symbols to represent the 44 sounds of the English Language on a one-to-one correspondence, one symbol for each sound.

(622)

Initiates Structure

The principal develops and puts into use a consistent pattern of behavior in handling problems which permits an observer to be able to predict how he will handle future problems.

(333)

Initiating Structure

The leader who stresses initiating structure:

1. Delineates the relationship between himself and the members of his work group

2. Sets up well-defined patterns of organization, channels of communication, methods of procedure (Sets up a joint committee of maintenance supervisors and instructional supervisors to establish a school for custodians; establishes a new procedure for assigning the use of the school building during evening hours; changes the responsibility for the revision of the school handbook from a committee of principals to a committee of principals, teachers, and students)

(344)

Initiating Structure

Behaviors characteristic of initiating structure include:

1. The leader encourages overtime work
2. He tries out new ideas with the group
3. He talks about how much should be done, encouraging slow-working people in the group to work harder, assigning people to particular tasks, asking for sacrifices from individuals for the good of the entire group
4. He asks that people under him follow regulations in every detail, putting the section's welfare above that of any member, stressing being ahead of other groups
5. He emphasizes meeting deadlines
6. He decides in detail what whould be done and how it shall be done by the work group
7. He meets with members of the group at regularly scheduled times, checking to see that members of the group are working up to capacity

(366)

Initiative (Pupil)

The pupil takes it upon himself to perform a task, selects the task and completes it.

(404,405)

Initiative (Pupils)

This was determined by the extent to which the children freely varied the timing of the next step, either initiating the activity, terminating it, and/or proceeding freely within it.

(990)

Inquiry Training

Pupils are taught problem-solving techniques. They are presented with specific problems. The teacher serves as their laboratory or source of information. The pupils formulate their own hypothesis and ask questions requiring a "yes" or "no" reply from the teacher in order to support or refute their hypothesis or theory. (752)

Insecure Teacher

The insecure teacher performs in the following ways:

1. He directs disapproval, threats, blame or shame toward the child as a person
2. He expresses partial or complete disapproval of ideas, behavior or personal characteristics of the child
3. He frequently resorts to punishment, i.e., sends child out of room; keeps child after school; sends child to principal's office; directs physical attack against child; deprives child of specific material, activity, "right" or privilege
4. He uses personal disapproval frequently towards an individual child or towards the group
5. His manner is indicative of lack of support, is threatening, guilt-provoking, challenging
6. His dominant intent is to admonish the child, i.e., focus on his personal failure or failings in the situation
7. He uses children as objects of ridicule
8. He treats deviations from his standards as evidence of dumbness
9. He responds to a child with direct refusal or contradicts child
10. He "talks down" to the child

(424)

Insecurity

This is an atmosphere in which neither support nor acceptance is given to the child. Lack of support on the part of the teacher is demonstrated by use of consistent disapproval, discouragement, and lack of confidence in the child. The teacher's non-acceptance is demonstrated by his lack of respect for the child as an individual. (424)

Insensitivity

The leader carries out or plans to carry out an action which might be unintentionally offensive to someone. He approves without revision a letter written by a subordinate which contains sentences

which reflect unfavorably on the recipient, etc. (333)

Instruction

The transmission and storage of knowledge and culture with or without the direct mediation of the teacher. (May use books, films, filmstrips, TV, or computer, etc.) (359)

Instruction, Direct (Teacher)

Teacher talks to, listens to, and demonstrates for children. (1002)

Instructional Materials, Efficient Use of

Fewer copies of tapes, records, film strips, films, video-tapes, will need to be purchased; they will be used more frequently, and utilized by several classes at one time. (1002)

Instructional Planning, Team Tasks

These tasks are performed by the total team, a sub-group, or an individual member, and include all activities related to preparation for the teaching act: background reading, development of lectures, discussion guides, bibliography, materials, questions, examinations, etc. (260)

Instructional Team Tasks

These instructional tasks are performed by the total team, a sub-group, or an individual member and include face-to-face contact with an individual or group for the purpose of achieving specified course objectives. (260)

Integration of Learning Experiences (Teacher)

The teacher identifies topics, words, skills, etc. which are

to be taught in two or more subject areas, and combines the teaching of these materials and techniques.

(188)

Integrative Teacher

The integrative teacher demonstrates the following behaviors:

1. Shows approval, accordance, thanks, acceptance of the spontaneous or self-initiated behavior of the child
2. Asks questions regarding the child's expressed interest or activity
3. Makes statements regarding the child's expressed interest or activity
4. Admits responsibility for his own act that is inconvenient, unjust or unfair to another; or admits his own ignorance or incapacity

(375)

Intelligence (Pupil)

Pupil undertakes activities that are characterized by difficulty, complexity, abstractness, economy, adaptiveness to a goal, social value, and the emergence of originals.

(630)

Intelligence of Pupils, Ability Levels

Four levels of intelligence include:

1. Below average pupils: I.Q. scores below 88. More than one standard deviation below the mean.
2. Average pupils: I.Q. scores 88-112. One standard deviation from the mean.
3. Superior pupils: I.Q. scores 113-124. Between one and two standard deviations above the mean.
4. Very superior pupils: I.Q. scores 125 and above. Two or more standard deviations above the mean.
   (Detroit Group Intelligence Test)

(240)

Interaction (Pupils)

Interaction is the extent to which the children respond to each other; whether they structure for each other, evaluate

each other, assist each other, work or play with each other in a cooperative way.

(990)

Interage Class

An interage class is a group of children approximately half of whom are first-year students, the other half second-year students; or half second-year students, half third-year students, etc.

(75)

Interest, General

An individual displays interest when he gives selective attention to something and demonstrates that an object or event makes a difference or is of concern to him.

(457)

Interest and Involvement, Lack of (Pupils)

Pupils' lack of interest or involvement when they display no desire to continue the class activity. Whenever the teacher stops "shepherding" the group, the pupils stop their work.

(991)

Interests in Learning (Pupil)

The pupil displays increased attention to learning tasks and exhibits self-initiated participation by asking many questions, volunteering information and bringing a variety of related materials to class.

(424)

Interest in Social and Academic Areas

Pupils demonstrate interest in social and academic areas by:

1. Participating in extra-curricular activities offered in academic and/or social institutions
2. Organizing activities within the context of social or academic institutions

3. Volunteering to take responsibilities such as writing, publicizing, carrying out policy, etc.
4. Attending lectures or meetings about topics that are new

(457)

Interest in Subject Matter (Teacher)

The teacher's interest in subject matter was measured by the Manifold Interest Schedule. This test assessed the teacher's knowledge in the following academic areas: Social, Physical and Biological Science, English, Foreign Language, Mathematics, Industrial Arts, Home Economics, Business, Fine Arts, Music, Sports, Reading and manipulative skills.

(424)

Interpersonal Skills (Principal)

The principal is rated by teachers as successful in:

1. Resolving student discipline problems
2. Handling parental complaints
3. Handling delicate interpersonal situations
4. Obtaining parental cooperation with the school
4. Developing esprit de corps among teachers

(320)

Interpretation (Teacher)

The teacher interprets when he states, explains, and brings elements of the situation that are known to the pupil group together in a way that the relationships and consequences are stated for the pupils.

(429, 450)

Interpretation of Own Action (Teacher)

The teacher interprets his own action when the teacher explains his action, admits his mistake, or states that he doesn't have the answer.

(429)

Interpretation of Pupils' Feelings (Teacher)

The teacher interprets pupils' feelings when his response is

in the form of a statement shich reflects feelings of the individual student or groups of students.

(429)

Intimacy

The personality structure of the individual includes a need for close interpersonal relationships with others.

(979)

Intimacy, Teacher

Teachers' closest friends are other faculty members*. Teachers invite other faculty members to their homes. Teachers know the background of other faculty members. Teachers talk about their personal lives with other faculty members. Teachers have fun socializing together during school time. Teachers work together preparing administrative reports.
(Organizational Climate Description Questionnaire)

(326)

*key item

Intraception

The individual's attitudes and outlook stress the imaginative, the subjective, and the human elements.

(979)

Intraclassroom Grouping

Intraclassroom grouping refers to part-time ability groups. Teacher regroups (on the basis of daily classwork and teacher-made tests) within the class, particularly for reading, arithmetic, and spelling in order to permit herself to work with youngsters of similar needs.

(236)

Inventive Solutions to Problems Suggested by Pupils

Pupils suggest novel or unconventional ways to handle a problem or situation.

(91)

Involvement (Pupils)

Pupil involvement was determined by:

1. The extent to which the children gave evidence of participating in classroom activities in a positive way--that is, showed signs of pleasure or interest, or in a negative way, showed signs of tensions or restlessness
2. The extent to which the children gave evidence of experiencing difficulty (990)
3. The use of a rating scale based on an extensive cue list which includes such factors as the amount of child-child interaction, the amount of time spent by the pupil in actual work, the amount of time given to extraneous tasks and the children's expressed feeling.

(997)

Job-Oriented Principal

A principal who wishes to maintain his role as an elementary principal, rather than being motivated toward higher administrative positions (supervisor, superintendent).

(284)

Job Satisfactions (Teacher)

Teachers state that they feel job satisfactions under the following conditions:

1. Fair treatment *
2. Feeling of importance *
3. Self-respect *
4. Part in policy formation *
5. Working conditions are pleasant *
6. Security and a comfortable living *
7. Sense of achievement *
8. Sense of belonging *

(370)

Judgment (Teacher)

The teacher serves as a judge when he renders a decision that eventuates in pupil action or implies pupil action. The teacher's decision is the outcome of a situation in which altercation or conflict is inherent or in progress in it. This includes conflict of either behavior or idea.

(429)

Judgment-Moralizing

The judgment is moralizing when the teacher makes an ethical statement, generalizing as to the "goodness" or "badness" of behavior or character traits.

(429)

Judgment-Punishing (Teacher)

The teacher's judgment (making a decision) is punishing when the teacher pronounces a sentence that serves as a punishment for the pupil.

(429)

Judgment-Teacher Directed

The judgment is teacher directed when the teacher makes the decision, gives the direction or command, and closes the issue. The teacher makes the decision based upon his own criteria. (429)

Judgment-Turned Back (Teacher)

The judgment (making the decision) is turned back when the teacher turns the issue to the pupil group for decision. The teacher assists the pupils involved in analyzing the problem and in making the judgment. (429)

Knowledge, Acquisition and Application of

This area refers to the recall, recognition, and retention of facts, concepts and principles and generalizations. Pupils who acquire and apply knowledge demonstrate the following behaviors:

1. Use terminology of a discipline studied in the correct context
2. Name the major theories and describe them without requiring reference material
3. Identify facts, theories, principles in a given discipline
4. Select relevant facts, theories, principles to solve specific problems in a given discipline

(457)

Knowledge, Professional (Teacher)

1. The teacher's knowledge in terms of professional information, history, literature, fine arts, science, mathematics, English expression and non-verbal reasoning was measured. (National Teacher Examination)
2. The teacher's knowledge related to foundations of education, child development and educational psychology, guidance and measurement, instructional methods, English, history, literature, fine arts, science and mathematics was measured. (Teacher Education Examination)

(401,424)

Label Words (Reading Cues)

Words are taken from text story and placed next to the appropriate object in the picture about the story.

(737)

Laboratory Classroom

A laboratory classroom is one that has the materials (books, supplies, charts, maps, etc.) and equipment (Projectors, screen, microscopes, tape recorders, etc.) needed to teach a specific subject to any pupil whatever his level of advancement in the curriculum, and whatever his level of ability.

(126)

Laboratory Method

The teacher provides pupils with direct experience and materials pertinent to the area of study. Pupils manipulate materials.

(1000)

Laissez-Faire Administrator

Although he has received his position through examination or appointment, the laissez-faire leader exerts no leadership.

1. He does not tell teachers what he thinks, nor does he restrict teachers' activities or impose a pattern on them
2. He listens to everyone, but avoids answers which are value judgements
3. He holds frequent, lengthy (two hours or longer) faculty meetings in which everyone talks. No pattern is established; anyone brings up any topic or problem. If the staff agrees on a point it makes little difference in the operation of the school because each teacher may choose to follow the direction or not.
4. This leader is not organized. The secretary takes care of routine reports, orders, absences, etc. while he spends his time working on any problem which a teacher or a group brings to him
5. He tells teachers that they may choose to participate in community activities or not- If no one volunteers for a community committee, he either goes himself or sends no one

(370)

Leader, Official

One who receives his position through appointment or examination.

(370)

Leadership

The initiation of a new structure or procedure for accomplishing an organization's goals and objectives, or for changing an organization's goals and objectives. The emphasis is on initiating change. The leader is disruptive of the existing state of affairs.

(344)

Leadership, Executive Professional (Principal)

The behavior of a principal which can be viewed in his efforts to conform to a definition of his role which stresses his obligation to improve the quality of teacher performance. The principal:

1. Has constructive suggestions to offer teachers in dealing with their major problems
2. Displays a strong interest in improving the quality of the educational program
3. Gives teachers the feeling that they can make significant contributions to improving the classroom performance of students
4. Helps teachers to understand the sources of important problems they are facing
5. Makes teachers' meetings a valuable educational activity
6. Considers "what is best for all the children" in his decisions affecting educational program
7. Brings to teachers' attention literature that is of value to them in their jobs
8. Maximizes the different skills found in his faculty
9. Treats teachers as professionals
10. Gives teachers the feeling that their work is important
11. Takes a strong interest in the professional development of teachers
12. Gets teachers to upgrade their performance standard in the classroom

(320)

Leadership, Group

Group leadership is demonstrated when:

1. Group members define their problems, decide on their objectives, plan ways in which to achieve objectives

(370)

2. Decide (on the basis of analysis of training and skills) which group member will direct each activity
3. Set up procedures and policies
4. Set limits of time for the completion of tasks

(370)

Leadership, Self-Evaluation of

The principal rates himself on his performance in:

1. Getting experienced teachers to upgrade their work
2. Improving the performance of inexperienced teachers
3. Getting teachers to use new methods
4. Giving leadership to the instructional program
5. Communicating the objectives of the school and faculty
6. Knowing about the strengths and weaknesses of teachers
7. Maximizing the different skills of the faculty

(320)

Leadership, Shared

The principal or supervisor (as appointed leader) tells his staff which are the areas in which he has authority (can make decisions), and in which of these he will share the decision-making with them.

(370)

Leadership Style

Leadership style is the characteristic behavior of an administrator in his capacity as the appointed leader of a school. Leadership styles include the Autocratic*-Democratic* continuum (points on which are the Laissez-Faire*, the Paternal* and the Manipulative*), and the factors and styles identified through a work simulation technique:

1. Preparation for Decision*
2. Volume of Work Produced*
3. Exchanging Information*
4. Discussing*, Complying*
5. Analyzing the Situation*
6. Maintaining Organizational Relationships*
7. Organizing Work
8. Responding to Outsiders*
9. Directing Others*

(332,333,370)

Learning Center

A large area serving the entire school as a library and research center and a study facility. Additional facilities include a listening area with tapes and equipment, a project area, a mediation area and individual study carrels.

(28)

Learning Laboratory

The learning laboratory is a large room where students, teachers, and many kinds of materials and resources are brought together. Students proceed through definite assigned units of study, working individually in clearly defined steps, and conferring regularly with teachers.

(1005)

The learning laboratory setting includes the following features:

1. A large area
2. Carpeting and drapes
3. Individual, mobile carrels
4. Tape booths
5. A large variety of materials in all subject areas
6. A large variety of visual aids and equipment.

(575)

Learning Space

1. Flexibility
   Learning space may be changed on an hour-to-hour*, day-to-day*, week-to-week*, term-to-term*, or year-to-year* basis to accomodate changes in the school program.

2. Interchangeable Functions
   Small spaces are available which can be utilized without physical change for seminar, recitation, individual study.

3. Specific Function, Multi-Discipline Usage
   A multi-discipline learning space is one such as a lecture hall with media which is used for one educational process or one function, but can be used by many different disciplines, (i.e. lecture, or film-lecture in social studies, science, literature).

4. Unidiscipline, Specific Usage
   A unidiscipline learning space is a facility designed to house one function and one discipline; multiple uses are not appropriate (i.e. science laboratory, woodworking shop).

(1003)

Lecture Method

1. The teacher gives facts or opinions about the content or procedure, expresses his own idea and asks rhetorical questions. (373,404,405,411,442,450,459)

2. The teacher speaks a greater percentage of the time.

3. He limits discussions to directly relevent materials.

4. He makes few requests for student opinions.

5. He does not enter into discussions with students. (479,1000)

Leisure Time Interests and Activities (Teacher)

These consisted of hobby activities such as attending the theatre, opera, sports activities, participation in school related organizations, and participation in community organizations. (413)

Letter Recognition by Shapes

The teacher uses shapes of letters to suggest the picture of an object which has a name that begins with the sound for which the letter stands. (727)

Letter-Sound Association

1. Given a letter in print, the pupil makes the sound of that letter.

2. Given a sound in a word, the pupil states the letter(s) involved in making that sound. (727,674)

Listening Ability (Pupil)

This was measured by the Sequential Tests of Educational Progress-Listening Test. (516)

Logical Evaluation of Content (Pupil)

The pupil states a complete logical evaluation of a piece of information when he responds to the teacher's statement relating to a thing, event, or action (to be rated good or bad, true or false, just or unjust) by stating the thing or event, the rating, the criteria by which he made the rating and the facts about the thing or action rule that support the use of the criteria in making the rating.(analysis of taped recordings). (449)

Loosely Structured Classroom Setting

The teacher provides a setting allowing children to share in planning educational activities, to take responsibility for routine classroom procedures, to establish and enforce behavioral regulations in the classroom, to express their own viewpoints and to work without direct supervision. (424)

Maintaining Organizational Relationships

The principal who stresses maintaining organizational relationships:

1. Involves a number of superiors or outsiders
2. Discusses with superiors or outsiders
3. Relates problems to background materials or structure
4. Follows lead by outsiders
5. Communicates by telephone
6. Does not delay or postpone action

(332)

Managerial and Clerical Duties (Principal)

The principal is responsible for the following tasks:

1. Keeping school records
2. Checking school attendance
3. Taking inventory of equipment
4. Ordering or distributing supplies
5. Preparing reports for superiors
6. Checking grade sheets or report cards
7. Planning schedules
8. Dealing with correspondence
9. Supervising budget
10. Managing the office
11. Supervising custodial staff

(320)

Managerial Skills, Principal's Self-Evaluation

The principal rates himself on his ability to:

1. Run the office smoothly
2. Plan well for the school's needs
3. Direct the work of administrative assistants
4. Cut "red tape" when fast action is needed
5. Publicize the work of the school

(320)

Managerial Support by Principal for Teachers

The principal who provides managerial support for his teachers:

1. Makes decisions promptly

2. Is consistent in decisions.
3. Does not give teachers unnecessary paper work.
4. Runs meetings in an organized way.

(320)

Manipulates (Teacher)

The teacher arranges elements of the classroom environment, personal or physical; causes others to do something.

(459)

Manipulative Administrator

Although this leader does not give direct commands or orders, he works in such a way that teachers see the "superior value" of his viewpoint and the way of work.

1. Problems are discussed with influencial teachers before being brought up at a general meeting. Key faculty members are asked to support proposals before entire staff is asked to consider them. An agenda is prepared prior to each meeting. Proposals brought up from the floor are referred to committees for consideration and recommendations before being discussed.
2. The leader works closely with all committees in planning meetings. Teachers are not expected to have an equal part in determining the program or the way work should be done. In meetings chaired by the leader he knows when to recognize persons who are in favor of the idea, and when to give the floor to the opposition.
3. The faculty of such a school reaches concensus easily. When teachers ask to be transferred because they are dissatisfied with such manipulation, they are labeled by this leader as "disgruntled diehards" or "persons who do not understand modern education."

(370)

Manipulative Exercises for Writing

Child dials toy telephone, puts puzzles together, sets table, cuts with scissors, finger paints, molds clay.

(856)

Mastery Technique, Spelling

Student looks at, says, listens to, traces (in air), copies, until he writes the new word correctly from memory.

(846)

Mature Behavior (Pupil)

Pupils take the responsibility for their own actions and move away from an infantile reliance on adults.
(Assessing Children's Feelings)

(424)

Meets Pupil Request (Teacher)

The teacher meets a request when he makes a response to a request of an individual or of individuals.

(450)

Memory, Reading Readiness

Pupils exhibit the following behaviors:

1. Memorizes birth date and home address
2. Repeats a simple sentence without error
3. Follows a series of three directions in given order
4. Re-tells a story without confusing the sequence of events

(737)

Mental Abilities (Administrators)

Thirteen basic cognitive factors can be measured using timed tests as follows:

1. Deduction (Reasoning)
2. Induction (Letter Grouping)
3. General Reasoning (Math Aptitude Test)
4. Verbal Knowledge (Advanced Vocabulary)
5. Flexibility of Closure (Concealed Figures)
6. Speed of Closure (Four Letter Words and Gestalt Completion Test)
7. Associational Fluency (Associational Fluency, Form A)
8. Expressional Fluency (Expressional Fluency, Form A)
9. Ideational Fluency (Ideational Fluency 1, Form A)
10. Word Fluency (Word Fluency, Form A)
11. Associative Memory (Associative Memory 1, First Names and Associative Memory 2, Picture Numbers)
12. Number Facility (Addition Test, Number Facility 1 and Subtraction and Multiplication Tests, Number Facility 2)
13. Visualization (Paper Board Form)

(333)

Mental Abilities (Pupil)

See Intelligence *

Mental Capacity Required For Reading Readiness

Pupils exhibit the following behaviors:

1. Speaks in sentences; utilizes a variety of words
2. Answers verbal questions and follows simple verbal directions
3. Creates a simple story, either realistic or fanciful
4. Remembers and states events of previous days or weeks
5. Classifies objects according to general categories

(702)

Monologue-Unit of Classroom Discourse

A monologue is an utterance (an utterance is defined as what one individual says at a given time) made by either the teacher or the pupil and stands alone. It is a solo performance by a speaker (pupil or teacher) addressing the group and requires no verbal response. The solo speaker moves from point to point in his exposition, raising one point, elaborating at some length and then proceeding to another point.

(383)

Morale, High (Teacher)

Signs of high morale include the following behaviors:

1. Teachers are prompt in coming to work or to meetings
2. Absenteeism is low
3. There is little staff turnover
4. Teachers discuss problems and state grievances at open meetings

(370)

Morale, Low (Teacher)

Signs of low morale include the following behaviors:

1. Teachers take excessive time away from the task at hand
2. There is constant bickering and/or complaining
3. There is low production

(370)

More Effective Schools Program, New York City

10,000 students who were achieving below the national norms (average 3 months--grade 2 to 12 months--grade 6) were placed in special classes in which:

1. Groups of 4 teachers cooperatively planned for and instructed 66 younsters at any given grade level from 1-6; Pre-K--15 pupils per 2 teachers; K-18-20 pupils, 3 teachers per 2 classes
2. An assistant principal for each 2 grades was assigned to help with instruction
3. Teacher specialists in art, music, and other curriculum areas were used to enrich the instructional program
4. Teacher preparation time was provided during the school day
5. A guidance team (social workers, psychologist, etc.) was assigned each school
6. Materials of instruction and equipment was provided in excess of usual amount

(144)

Motivation in Becoming a Principal

The individual seeks to become a principal due to a desire to:

1. Give greater service to education
2. Achieve upward social mobility
3. Earn addition salary

(320)

Motor Control Required For Reading Readiness

Motor control required for reading include:

1. Cuts with scissors
2. Handles playground equipment with ease to illustrate hand coordination
3. Handles pencils or crayons to trace a straight line
4. Turns pages of a book without tearing or folding them

(737)

Motor Encoding Ability (Pupil)

The pupil expresses ideas in gestures.
(Illinois Test of Psycholinguistic Abilities)

(915)

Moveable Partitions, Non-Verbal Cue, Behavior Habits

Moveable partitions reminds the child (without the use of words) of behavior habits explained to him by the teacher. The child will not intrude on others or can find a quiet spot by himself through use of these partitions which can enclose small areas, or set off private working or thinking retreats.

(1007)

Multi-Age Classes

Pupils are placed in classes of approximately thirty students on a heterogeneous, random basis. Primary classes contain children who are 6, 7, and 8; intermediate classes contain children who are 9, 10, and 11.

(219)

Multi-Method Approach

Teacher utilizes many methods and instructional media in one instructional period.

(413)

Multi-Method Approach to Reading

Multi-Method may include the following:

1. Teacher presents one sound at a time, teaching the main graphemes of each sound together
2. Each spelling pattern is presented in words, sentences and stories
3. Blackboard is used throughout the lesson
4. Children participate in demonstrations and games
5. Reading period is accompanied with writing the new sounds and words
6. Review period - children write new words and sentences from dictation and proof read their own papers

(736)

Multimodal Approach, Reading

1. Students listen to the sounds of the word
2. Looks at and reads the sounds
3. Says the sounds
4. Writes the sounds

(728)

Multi-Sensory

The pupil's simultaneous use of a combination of two or more senses (sight, hearing, touch, taste, and smell). (89)

Naming Behavior of Pupil

The pupil supplies the cirrect name orally or in writing, for objects events, or class of objects or events.

(756)

Needs Structure

The individual's personality needs including:

1. Deference *
2. Endurance *
3. Exhibition *
4. Intimacy *
5. Intraception *
6. Nurturance *
7. Order *
8. Succorance *

(979)

Neighborhood Worker

The neighborhood worker is a parent hired and trained to work with the trained social worker for a school to establish communication between the teachers and parents of children. Responsibilities of the neighborhood worker are:

1. Makes initial contacts with families new to the district
2. Discusses the school program with parents new to the district
3. Makes calls or visits to follow-up truancy reports
4. In a classroom crisis (child has an emotional outburst, defies the teacher, etc.) talks to the child in or out of the room

(90)

Nervous Teacher

The teacher is hesitant in speech and movements and paces the floor.

(479)

Nomothetic Leader

The nomothetic leader:

1. Stresses the requirements of the institution and the conformity of role behavior to expectations

2. Does not seek to satisfy needs of individuals
3. Perceives authority as vested in his office
4. Places heavy emphasis on rules and procedures (no exception), imposing sanctions to ensure conformity

Effectiveness (getting the job done) is his standard of excellence for his subordinates.

(318)

Non-Correction Procedure in Programmed Institutions

Student is required to make a response and go on the next item whether or not his response is correct. He then goes through the whole seat of parts and returns to the beginning and starts over again, repeating the procedure until all the parts have correct responses.

(889)

Non-Directive Teacher

The non-directive teacher displays the following behaviors:

1. Reacts to the students' remarks by making gently challenging statements without any disputing statements
2. Makes statements provoking student reflection without any disapproving statements
3. Leads students, but does not make directive statements
4. Makes esteeming statements without praising
5. Makes guiding statements without prescriptive statements

(442)

Non-graded Primary

A program of organized instruction between kindergarten and grade 4, usually involving three years, in which no grade designations are used. Children are differentially grouped in all subjects by ability and achievement in reading, language, arithmetic, etc., rather than the amount of time he spends in school.

(174)

Non-graded Primary Reading Program

Students in grades 1-3 are instructed in small groups or on an individual basis in reading according to I.Q. scores, reading achievement scores and teacher observed rate of progress.

Grouping can be changed as student's skill increases or rate of reading changes.

(240)

Non-graded Primary Reading Program, Flint, Michigan

In the Primary Cycle Plan, ten levels of reading skills progress replace former grades 1-3. The initial placement of a child is based on the kindergarten teacher's estimate of the child's reading readiness. Careful records of reading progress are kept. A child moves to another group as he exceeds the achievement of his current group.

(234)

Non-graded Primary Reading Program, Milwaukee Plan

Following Kindergarten, all primary children enter a three-year non-graded program. Some children complete the program in two years, some in four, but all utilize 12 modules of reading as follows:

Module 1. Pre-reading
Module 2. Chart Reading
Module 3. Pre-primers
Module 4. Easy primers
Module 5. Harder primers
Module 6. Easy first readers
Module 7. Harder first readers
Module 8. Easy second readers
Module 9. Harder second readers
Module 10. Easy third readers
Module 11. Harder third readers
Module 12. Independent reading

Within each classroom pupils are divided into 3 homogeneous groups on the basis of teacher judgment, and reading achievement test scores. A pupil may move to another group at any time (based on teacher evaluation of growth in reading skills).

Ten reading levels have been established in reading for the equivalent of grades 1-3. Individual children are reclassified at any time on the basis of standardized test results.

(234)

Non-graded Primary Reading Program, Park Forest, Illinois

Following Kindergarten, children are grouped for reading on the readiness tests, and teachers' judgment of social and emotional

maturity and social compatability. In the primary level each classroom contains three reading groups; if a child achieves beyond the highest reading level in his room, he moves to another classroom for reading instruction. Primary teachers remain with one group for the three year program.

(234)

Non-graded Primary: Continuous Progress Reading

The pupil is advanced from one learning level to the next in reading as his teacher judges he is ready by his reading achievement test scores and classroom performance. No child is kept in a group for any given period of time.

(200)

Non-graded Primary, Two-Year Spans

All classes organized in spans, such as Kindergarten and Grade one (ages 5-6) or Grades one and two (ages 6-7), with each class a heterogeneous unit with subgrouping for instruction in reading, based on reading achievement test scores and teacher judgment, class size limited to 22 pupils per class, plus a fourth teacher for every three classes.

(179)

Non-graded Program, Duties of Fourth Teacher

Duties of the fourth teacher for each groups of 3 homerooms, any level: (This teacher does not have a homeroom assignment)

1. Teaching skills to small groups or individuals
2. Continuing instruction in creative work (art, music, etc.) begun by specialist
3. Testing pupils, diagnosing results
4. Teaching majority of class while teacher works with a few pupils
5. Teaching the class during homeroom teacher's unassigned period

(179)

Non-Verbal Behavior (Teacher)

Non-verbal behavior encompasses the teacher's facial and bodily expressions associated with his momentary disposition--smiling,

frowning, tone of voice, expression of eyes, posture, and the actions he uses to show a pupil how to do something.

(449)

Non-Verbal Cue, Increased Motivation

An aspect of the environment which encourages the child to investigate further, as:

1. Bells indicate beginning, end, or change of activity; remind child to come inside, feed animals, gather around teacher
2. Boxes with holes focus sense experiences of seeing, hearing, feeling
3. Color of storage units (different color for each unit) visualizes number concepts
4. Flags placed to catch wind currents indicate a natural element to a pupil
5. Furnishings which are easily manipulated (doors, toilets, storage units, windows, chairs) can be handled without adult assistance
6. Shadows on the floor indicate the passage of time, the shape of a window, a marker of the seasons, etc.
7. Storage units, shape reinforce concept of shape and size relationships

(1007)

Non-Verbal Cue, Behavior Habits

A marker in the environment that reminds the child (without the use of words) of behavior habits explained to him by the teacher as:

1. Height of shelves
   a. Four feet high or lower (K) indicates a child helps himself to supplies
   b. Above four feet indicates teacher use, or teacher permission needed
2. Height of vertical panel of ceiling
   a. High panels or ceilings indicate large group activity
   b. Low panels or ceilings indicate small group activities
3. Light
   a. Bright light indicates active areas
   b. Subdued light indicates quiet areas
4. Lines on floor mark movement for fire drill, traffic patterns, etc.
5. Reflected sunlight such as skylights catching the sun at predetermined times signify beginning or ending of a scheduled activity

(1007)

Nurturance Need

The personality structure of the individual includes a need to provide care for others, particularly the young, the weak, or the incapable.

(979)

Objective Teacher

The objective teacher demonstrates the following behaviors:

1. Attempts to gather all pertinent information before making a decision
2. Does not make a decision affecting classroom or school operations until emotions are under control
3. Tries to find underlying cause of difficulty when conflict arises
4. Permits children to voice opinions in teacher-child conflicts
5. Attempts to keep conflict situation within bounds
6. Attempts to be constructive in resolving problem situations
7. Does not depend upon others to resolve conflict situations

(424)

Obscurity (Teacher)

The obscurity of the teacher's presentation of subject matter may be manifested by the occurrence of the following pupil behaviors after the teacher's presentation of subject matter:

1. Students request teacher to repeat what he has said, to further explain, further interpret, and repeat hypotheses and theories
2. Discussions which were closed by the teacher are re-opened by the students requesting further discussion

(479)

Observational Team Tasks

Observational team tasks performed by the total team, a sub-group, or an individual member so designated included:

1. Observing by live television, video-tape, or classroom visitation the teaching performance of another team member
2. Evaluating the teaching performance in terms of pre-established criteria

(260)

Obstructive Pupil

Obstructive pupils are characterized by the following behaviors:

1. Refuse to obey teacher's demands or requests
2. Are noisy
3. Are verbally or physically aggressive towards each other
4. Refuse to cooperate with each other
5. Interrupt teacher and other pupils
6. Verbally demand, command, physically use force and attack the status of the other children (424)

Open Climate

In the prototype of the Open Climate:

1. The teachers have a high degree* of ESPRIT* (They accept the faults of their colleagues, and adopt an attitude of "let's get this done", etc.)
2. They work together without disagreement or bickering (low* DISENGAGEMENT*)
3. They are not burdened by routine duties and reports, and the principal's policies facilitate the accomplishment of such tasks (low* HINDRANCE*)
4. The members enjoy friendly relations with each other, but do not feel a need for a high degree of INTIMACY* (They have many friends and interests outside their fellow staff members)
5. The principal has a high degree* of THRUST* He works hard himself, setting an example for the staff
6. He examines situations and, depending on his analysis, either criticizes teachers or goes out of his way to help them (high* CONSIDERATION*)
7. He is not ALOOF*, nor does he set up impersonal or inflexible rules, but he controls indirectly through rules and regulations which are adhered to
8. He does not emphasize PRODUCTION*, does not monitor teachers' activities closely. He shares leadership by allowing teachers to lead in areas in which they have special training and skill

(326)

Open End Scheduling

The "open end" plan incorporates the following features:

1. There are no "study periods" during the school day
2. The final period of the day is designated the "open end" during which students work individually or in groups on subjects which they select, complete science or industrial arts lab projects (assigned or self-chosen), or do homework
3. All facilities of library and laboratories (art, science, practical arts, home arts) are supervised and open. Teachers are available to give any requested help
4. Each subject has a priority day during which all teachers of that subject are on call. Students may claim an individual teacher's time by appointment. Teachers may also claim students
5. The open end period is divided into modules, which are grouped together into periods of varying lengths depending on specific needs
6. Students who complete all work may leave school at any time after the beginning of the open end period

(273)

Open Structuring (Teacher)

The teacher structures openly when he states the topic, problem or activity (area of attention) without calling for a precise and single correct response from the pupil. The specific choice of the content of response lies within each pupil. (429)

Operant Conditioning

A form of learning wherein the individual becomes progressively more likely to respond in a given situation with that response which, in previous similar situations, has brought about a rewarding or or satisfying state of affairs. (884)

Opposers, Pupil Personality Profile

Children who are opposers are characterized by:

1. Disturbed authority relationships*
2. Feelings of inadequacy*
3. Overall pessimistic set
4. See themselves as a selected target for others' hostility, peers as well as adults
5. Refrain from taking personal responsibility for their actions
6. Exhibitionistic tendencies*
7. Deny any push toward school achievement (424)

Optimistic Teacher

An optimistic teacher is characterized by the following traits:

1. Cheerful and good-natured
2. Genial
3. Receptive to joking
4. Emphasizes potential "good"
5. Looks on bright side; speaks optimistically of the future
6. Calls attention to good points; emphasizes the positive (424)

Oral Expression, Required for Reading

The pupil's level of oral expression required for reading include:

1. Pronounces words clearly
2. Talks in complete sentences

3. Speaks spontaneously in group discussion
4. Volunteers to retell story read by teacher
5. States central thought of a story and predicts the outcome
6. Follows left-to-right progression across a page

(737)

Ordering Behavior (Pupil)

Pupil arranges two or more objects or events in proper order in accordance with a stated category.

(756)

Organizational Climate

Six organizational climates have been identified for the elementary school, based on the relationships between the principal and staff and the interrelationships among the teachers. The six climates represent points on a continuum from open*, through autonomous*, familiar*, paternal*, controlled* to closed*.

(326)

Organizational Climate, High Degree of any Variable

The variable (aloofness*, thrust*, consideration*, production emphasis*) is scored at one or more standard deviation(s) above the mean, where the mean is 50, and one standard deviation is 10.
(Organizational Climate Description Questionnaire)

(326)

Organizational Climate, Low Degree of any Variable

The variable (aloofness*, thrust*, consideration*, production emphasis*) is scored at one or more standard deviations below the mean, where the mean is 50 and one standard deviation is 10.
(Organizational Climate Description Questionnaire)

(326)

Organizational Team Tasks

Organizational-administrative tasks performed by the total team, a sub-group, or an individual member so designated include:

1. Scheduling rooms
2. Requisitioning materials
3. Establishing operating rules and procedures
4. Making teaching and other assignments
5. Setting up schedules for rooms

(260)

Organizing Work, Administrative Style

The principal whose administrative style stresses organizing work:
1. Schedules work for same day or week
2. Follows pre-established procedures
3. Specifies time for work

(332)

Originality (Pupil)

When charged to list the possible results of an unusual situation, the pupil states uncommon ideas, produces clever and new responses or makes remote associations.
(Consequences Test)

(868)

Originates (Teacher)

The teacher originates when he serves as the source of behavior in that there is no aspect of the classroom situation which provides an immediately discernible explanation of his behavior. The undiscernible stimulation may be district expectations, professional training, teacher planning, etc., but the teacher is not interacting with the existing elements in the immediate classroom environment.

(459)

Order

The personality structure of the individual includes a need to put things or ideas into systematic arrangement.

(979)

Over-Generalization (Pupil)

Pupil uses little empirical data in arriving at conclusions.

(Social Studies Inference Test)

(792)

Overt Responses (Pupil)

Pupils answer questions, in the form of writing, speaking, or indicating alternatives in a multiple-choice question.

(876)

Participating Pupils

Children demonstrate participation when they:

1. Make frequent use of available resource materials
2. Bring in projects
3. Relate relevant experiences in class
4. Join in discussions
5. Offer suggestions and contributions
6. Move toward the teacher in a friendly, confiding manner, talking with her and sharing their ideas

(424, 433)

Paternal Climate

In the Prototype of the Paternal Climate:

1. The teachers do not work well together: they split into factions. There is high* DISENGAGEMENT* (much bickering) because the principal does not control the activities of the teachers
2. The principal does most of the routine reports and duties himself, resulting in low* HINDRANCE* for the teachers
3. The teachers are not personal friends, and have little or no social contacts (low* INTIMACY*)
4. There is little sense of satisfaction in task accomplishment or social-needs, resulting in low* ESPRIT*
5. The principal is constantly checking, monitoring, telling people how to do things. He insists on knowing everything that is going on (low* ALOOFNESS*)
6. He emphasizes all the things that should be done (PRODUCTION EMPHASIS*), and does all the scheduling, class changing, etc. personally
7. He regards the school and its duties as his main interest in life, and does not seek satisfactions away from the job. He uses CONSIDERATION* behavior to satisfy his own needs
8. His degree of THRUST* is average*: he tries to move the teachers, but he fails to motivate them because he does not provide an example

(Organizational Climate Description Questionnaire)

(326)

Pattern of Work by Example

The administrator sets an example of his expectations by:

1. Coming to work early
2. Staying at work until or beyond the designated hour
3. Being prompt in meeting deadlines
4. Completing all details of his assignments

(370)

Patterned Sets for Spelling

In early or primary lists of words, only one letter and one sound changes in successive words in a spelling list.

(846)

Patterns, Sound-Spelling

Words are grouped in a sequence to exhibit only one sound that differentiates it from another word meaning. (Phoneme).

(732)

Perceptual Skills (Pupils)

The perceptual skills of pupils are:

1. Auditory Decoding*
2. Visual Decoding*
3. Auditory-Vocal Association*
4. Visual-Motor Association*
5. Vocal Encoding*
6. Motor-Encoding*
7. Auditory-Vocal Automatic*
8. Auditory-Vocal Sequencing*
9. Visual Motor Sequencing*

(Illinois Test of Psycholinguistic Abilities)

(715)

"Permissive" Teacher

The "permissive" teacher selects students to conduct classroom discussions, calls upon students to answer other students' questions, to give their own opinions, presents a greater amount of subject matter that strongly opposes pupils' common notions, provides less amount of teacher factual speech and spends a lower percentage of the time speaking.

(479)

Personal Assistance (Teacher)

The teacher for a pupil or pupil group when he goes beyond simple arrangements and does something that is over and above the relationships that are public and established with each student in the room.

(429)

Personal Responsiveness (Teacher)

The teacher demonstrates personal responsiveness when he replies or acts to serve the students in terms of their personal needs by doing any of the following:

1. The teacher meets pupils' requests*
2. The teacher clarifies problems for pupils in a personal manner*
3. The teacher interprets*

(450)

Personality Factors

Basic personality factors can be measured by the Sixteen Personality Factor Questionnaire.

(333)

Pessimistic Set (Pupil)

Pupils expect disappointment rather than satisfaction.
(Assessing Children's Feelings)

(424)

Phonics Method

The teacher orally presents to the children the sounds of single letters or groups of letters which are to serve as auditory cues for the pupils in assisting them in word identification and recognition.

(413)

Pictorial Cues, Letter Shape

Teacher or text uses shape of letter to suggest the picture of an object which has a name that begins with the sound for which the letter stands.

(727)

Picture Reading, Levels of (Pupil)

Levels of picture reading are:

1. Naming: pupil names objects in picture, simple recognition

2. Description: pupil tells what is happening in the picture
3. Interpretation: pupil infers what has happened before what will happen next

(724)

Placement

The student is placed in a group based on:

1. Self-stated interest
2. Achievement test scores
3. Needs as revealed on diagnostic tests
4. Teacher judgment

(28)

Planning, Cooperative

Two or more teachers plan together for pupil instruction.

(1002)

Planning Period, Extra

Teacher's schedule includes 4 teaching periods and 2 preparation periods, as opposed to former schedule of 4 teaching periods, 1 duty period, and 1 planning period.

(143)

Planning Period, Team

Each team has a daily period during school time to:

1. Plan together
2. Schedule classes
3. Work on curriculum
4. Evaluate pupil progress
5. Preview films
6. Confer with parents

(153)

Planning Session for "Teacher Cluster"

The four teachers who are assigned to cooperatively plan for and instruct a group of 66 pupils have a joint planning session for 45 minutes one day per week.

(144)

Policy Formation, Teachers' Part in

Teachers feel satisfied with their part in policy formation

1. When the decision is a local one for the school; the teachers meet and discuss the policy and the group's decision is used by the administrator in making executive decisions
2. When an authority outside the staff makes a decision, the principal informs the staff so they may understand it and make adjustments to it; decide what sort of protest they wish to make if they do not agree with the policy; or how they wish to implement it if they do agree with it

(370)

Position in Space, Pupil's Perception of

The pupil discriminates reversals and rotations of figures presented in serires and recognizes likenesses and differences.
(Frostig Developmental Test of Visual Perception)

(915)

Potency

Potency refers to the magnitude of an initiated change, and the extent to which the change represents a significant departure from that which exists.

(342)

Power

The power of an individual is his ability to influence or control the behavior of others through being in a position to:

1. Give or withhold favors or affection
2. Grant or deny opportunity, recognition, or reward
3. Impose restrictions or penalties

(978)

Power, Excessive Use of (Teacher)

In controlling the rewards and punishments which the pupils receive, the teacher threatens and punishes the pupils frequently and undiscriminately and does not clearly state the rules regarding punishment.

(432)

Power, Extralegal Social of Teachers as a Group

The capacity of teachers as a group to control the stimuli which influence others. This is a result of the interaction in primary groups (small, voluntary, social groups) in which members share norms concerning acceptable behavior.

(339)

Power, Leadership

The leadership power of an individual includes his:

1. Professional competence (knowledge and strengths acquired through reading and study)
2. Personal influence (skill in involving the staff in the improvement of the school program through continuous experimentation, development and evaluation)

(978)

Power, Legal

Legal power is a subcategory of social power. It is the capacity to bring to bear the machinery of government in controlling the stimuli impinging upon individuals. The source of the legal power which operates in the school is the state. These provide the framework and limits within which the legal power of a school district exists and operates.

(339)

Power of Principal, Basis of in Neighborhood

The power or influence of a principal in a neighborhood depends on one or more of the following (rather than the fact that he is a principal):

1. Affiliation with neighborhood social groups
2. Acceptability to others who are influential
3. Service to neighborhood and community programs
4. Family connections
5. Length of residence in the nieghborhood

(978)

Power, Social (Administrator)

The capacity to control stimuli impinging upon other individuals which produce an effect phenomenologically observable as compliant behavior.

(339)

Practice, Distributed

An arrangement whereby the periods of practice, repetition or exposure are spaced out as widely as the total available time permits.

(853, 857)

Practice, Massed

An arrangement whereby the periods of practice, repetition or exposure are grouped with little or no interval between successive presentations.

(857)

Prejudges

The individual acts or plans to act without information on both sides of an issue.

(333)

Preparation for Decision vs. Taking Final Action

The principal who stresses preparation for decision (as opposed to one who takes immediate final action):

1. Arrives at a procedure for deciding
2. Requests further information before deciding, rather than making concluding decisions or taking terminal action
3. Schedules work for a later time in the day or the next day or week
4. Discusses problems with subordinates. Asks subordinates for information
5. Initiates a new structure for handling the problem
6. Communicates face-to-face

(332)

Preparation Time for Teacher

The teacher has a specific period of time during the school day in which to prepare materials and/or plan lessons.

(188)

Primary Groups (Teacher)

Small voluntary face-to-face groups who share social activities such as a coffee hour, lunch, a car pool. These are influenced by:

1. Personal characteristics (age, sex, marital status)
2. Organizational factors (proximity of teaching stations, schedule of free periods, similarity of teaching assignments)

(339)

Principal, Functions of

Working with his staff, the principal functions in the following capacities:

1. Formulates and/or executes a philosophy of education
2. Develops instructional goals
3. Develops a program of evaluation and appraisal
4. Develops and uses programs for atypical students
5. Formulates and executes policies re: pupil classification, marking, reporting, promoting
6. Identifies the need for instructional staff specialists, and directs and supervises their work
7. Plans for a continuous program of supervision within his unit
8. Plans for and executes a continuous program of in-service education for staff members
9. Reads, attends conferences to inform himself of new educational developments - informs his staff of these developments
10. Sets up channels of communication for interchange of information and ideas among staff members
11. Works on curriculum programs
12. Ascertains need for, and supplies facilities, equipment, books, etc.

(357)

Principal Team

Two or more principals are assigned to jointly administer and supervise the instruction in elementary schools of comparable size. The team meets weekly to decide tasks and operations. Duties are assigned as follows:

1. One principal, a specialist in administration, handles

routine administrative activities for all schools (order supplies; processes attendance, test scores and other data; prepares schedules; assigns pupils and teachers to rooms and classes; supervises custodial personnel, etc.)

2. Each other principal, a curriculum specialist in one or more subject area(s), supervises the subject(s) in all schools

(284)

Problem Solving, Group (Pupil)

The pupils are required to function as a group, without the teacher, and to devise and execute a plan for constructing a replica of a model shown them, using special interlocking blocks.
(Russell Sage Social Relations Test)

(447)

Proctor (Teacher)

The teacher serves as a proctor when he monitors the classroom during group activity, silent written testing, student teacher performance and student reports.

(459)

Production Emphasis (Principal)

The principal who emphasizes production:

1. Makes all class scheduling decisions
2. Schedules the work for the teachers
3. Checks the subject matter ability of teachers
4. Corrects teachers' mistakes
5. Checks on completion of tasks assigned and sets time limits to assure that teachers work to their full capacity
6. Posts extra duty for teachers conspicuously
7. Talks a great deal

(Organizational Climate Description Questionnaire)

(326)

Professional Growth of Teacher in a Team

Teacher with no previous experience observes and uses teaching techniques of experienced teachers on team.

(230)

Program Values, Concern for (Principal)

The principal states or takes actions which show concern for community support of the school, public relations and the instructional program of the school.

(333)

Programmed Instructional Materials

A unit of study, used by the pupils, in which the subject is broken down into a series of statements which, when completed presents the material to be learned by the student. Each statement has a missing key word which the students attempt to fill in from context clues or cues (from sentence meaning). These are checked against the correct answer after the response is made.

(882)

Project Method

The teacher provides the pupils with an assignment. The assignment may be of a general or specific nature. The pupils accept the assignment and are free to fulfill the requirements independently. Assisance from the teacher is available upon request.

(413)

Psychological Climate, Limiting (Teacher)

A psychological climate which is limiting is characterized by the following:

1. Teacher's statements or acts offer child no choice
2. Teacher's statements or acts force child into action in conflict with his own activity or statement
3. Teacher's statements or acts foster competition
4. Teacher avoids replying in situation where child seeks clarification
5. Teacher misleads child by bringing in irrelevant questions, statements, issues
6. Teacher offers poor or impractical suggestions
7. Teacher ignores those children who do not participate in a discussion
8. Teacher ridicules child's suggestions or ideas
9. Teacher does not encourage children to relate outside experiences
10. Teacher does not give slow learners a feeling of accomplishment
11. Teacher does not assist and encourage slow learners
12. Teacher neglects working with "difficult" children

(424)

Psychological Climate, Secure.(Teacher)

A psychological climate which is secure is characterized by the following:

1. Teacher makes children feel accepted as individuals
2. Children's rights are respected
3. Teacher treats children courteously
4. Teacher shows approval, accord, thanks, acceptance of spontaneous or self-initiated behavior of child
5. Teacher uses informal, conversational type of speech with children
6. Teacher respects children's wishes and requests and when these cannot be carried out gives a reasonable explanation which the children accept
7. Teacher shows neither favoritism, neglect or persecution, gives more time to those children who need it at the moment
8. Teacher helps bolster the non-accepted child both in his own eyes and in the eyes of the group
9. Teacher shows patience with children who are not helpful
10. Teacher "stands by" the child who is "different" and helps him to integrate with the group
11. Teacher gives approval where there can be several answers or new answers
12. Teacher speaks highly of children's achievements
13. Teacher supports offending child as well as the offended in a squabble

(424)

Punchboard, Electrified

The electrified punchboard is a device in which a pen-light stylus is used. When the student inserts it into the correct hole, the light on the stylus lights up to indicate that the response is correct.

(889)

Punitive Teacher

The teacher makes threatening gestures, speaks in a firm, irritated voice, reprimands and threatens pupil.

(440)

Pupil Team

Two or three pupils in a group which is semi-independent or the teacher, work out some of their own assignments and learning procedures. Pupils find their own rates of learning, check their

and set up their own goals.

(76)

Putting Staff at Ease

The principal puts his staff at ease when he:

1. Meets teachers in informal situations (coffee time after school)
2. Mentions strong points that he has observed in individuals or in the operation of the school
3. Assures the faculty that drastic changes will not be made immediately
4. Puts emphasis on his role as a coordinator rather than director.

(370)

Rapport

The expressed feelings pupils had for teachers in terms of the extent to which pupils liked attending class, learned in class, were proud to be members of the class, did their best, liked the teacher and received assistance from the teacher.

(447)

Ratings of Teachers

Teachers were rated in terms of teacher behavior, teaching role, the psychological climate they provided and the children's behavior.

Teacher behavior consisted of the following continua:

1. Democratic--Autocratic *
2. Objective--Subjective *
3. Responsive--Aloof *
4. Flexible--Rigid *
5. Optimistic--Pessimistic *
6. Responsible--Evading *
7. Consistent--Inconsistent*

Teaching Role consisted by the following continua:

1. Effective - Appropriate Methods--Ineffective--Inappropriate *
2. Effective - Appropriate Materials--Ineffective--Inappropriate *
3. Creative Thinking Emphasis--Rote Emphasis *
4. Individualizing Instruction--Group Leveling *
5. Stimulating--Dull *

Psychological Climate consisted of the following continua:

1. Security--Insecurity *
2. Facilitating--Limiting *
3. Child-centered--Teacher-centered *

Child Behavior included:

1. Alert--Disinterested *
2. Constructive--Obstructive *
3. Participating--Restrained *

(Heil's Teacher Observation Scale)

(424)

Reading Achievement (Pupil)

Pupils read to appreciate general significance, follow precise directions, note detail, comprehend, and define vocabulary.
(Gates Reading Test - 695-628)
(Lee-Clark Reading Tests - 645)
(Metropolitan Achievement Test - Reading)
(200,630)

Reading by Consonant Sounds

1. Pupil uses, in left to right order, the sounds represented by the consonants in a strange word, to call to mind a familiar spoken word, that makes sense in the context and contains those sounds in the right order, and states that word.
2. Consonant sounds are named by either saying the letter (bee, see) or when more than one letter is required for a sound, analogies are made. /ch/ = chee, /sh/ = esh.

(530)

Reading Readiness

Refers to a child's specified level of development determined by observational diagnosis of his:

1. Attitude toward school and teacher * (702)
2. Auditory and visual discrimination level * (72)
3. General oral expression * (737,702)
4. Level of cognitive functioning such as memory and comprehension * (702,737)
5. Motor Control * (737)
6. Social adjustment to school * (702)

Recall (Pupil)

Pupil reproduced materials to which he had been exposed during discussion.
(Levels of Understanding in Classroom Discussion) *
(450)

Recitation Method

This method was characterized by the teacher giving the pupils an assignment which they were directed to complete, study and report on.
(413)

Recognition (Pupil)

Pupils make correct responses to teacher's questions by association and identifying familiar items when they occur in the context during classroom discussion. Pupil comments are classified at four levels of understanding using Miller's Scale of Understanding. *

(450)

Redefinition by Pupil

Pupil improvises and adaptation of the function of an object to some other use.
(Unusual Uses Test)

(868)

Reinforces (Teacher)

The teacher confirms or sustains an idea, approach or method through reiteration.

(459)

Relational - Contextual Categorization (Pupil)

Children organize and label objects on the basis of their relation to one another in a functional sense.
(Cognitive Styles Task Test)

(750)

Relationships, Quality of, Required for Reading Readiness

The quality of relationships stated by pupils required for reading include:

1. States common elements among unlike things
2. States the relationship of opposites
3. States the functional relationships among unlike things
4. Classifies objects on the basis of some criterion
5. Connects objects, people and situations in a picture to tell a story

(737)

Relationships with Central Office

Relationships between the schools and the central office result when:

1. The superintendent clearly defines the duties and authority of the principal. The principal is recognized as the appointed,

responsible leader for his school.. No member of the central office has direct control over the employees under the principal's direct supervision

2. The principal and central office staff work together in solving problems

(357)

Relationships with Resource Personnel

The principal effects positive relationships with all resource personnel (art, music, physical education specialists; nurse; social or guidance worker, librarian) by according to them the same courtesies as regular staff members.

1. He uses "coordinator" or "consultant" as titles for them
2. He invites them to and expects them to attend staff meetings
3. He includes them in discussions and in making decisions that affect their work
4. He provides space and materials as required
5. He seeks information on their work, and supports and interprets it to the staff and the public
6. He provides clerical assistance to free them from routine duties so they can use their time in instruction
7. He plans conferences and meetings for teachers ans specialists so they can plan together

(357)

Reprimands (Teacher)

After a specific act, the teacher stops the pupil's unacceptable behavior by commanding or requesting a change in behavior.

(429)

Research and Development, Team Tasks

These tasks are performed by the total team, a sub-group, or an individual member and include all activities (reading, making visits or observations, telephoning project directors, etc.) carried on for the purpose of obtaining information on some aspect of team teaching.

(260)

Resource (Teacher)

The teacher functions as a resource when he supplies information or aids in a skill upon the pupil's request.

(429)

Respect for Others

The administrator who has respect for the personality of others:

1. Shows concern for others by listening and giving consideration to their ideas and suggestions
2. Encourages social activities in which faculty members can meet
3. Conducts meetings in which all opinions and comments are listened to
4. Accepts non-conforming behavior
5. Provides comfortable and attractive working conditions
6. Maintains an even dispostion
7. Is courteous in his treatment of teachers and children (370)

Responds with Verbal Futuristic Statement (Teacher)

The teacher makes a statement which involves a postponement response to a pupil's request. (429)

Response-Centered Program

A response-centered program consists of repetitive opportunities for practicing approximations of the desired terminal response until the correct terminal response has been achieved. (876)

Responding to Outsiders, Administrative Style

The principal who characteristically responds to outsiders:

1. Involves a number of outsiders
2. Gives information to outsiders
3. Follows lead by outsiders
4. Is courteous to outsiders
5. Makes careless or minor errors
6. Points out poor work (typing errors, inconsistencies in plans, etc.)of others (332)

Responsible Teachers

The responsible teacher is characterized by the following:

1. Makes decisions as required
2. Is conscientious
3. Is punctual
4. Is painstaking and careful
5. Calls pupils attention to standards of quality
6. Is attentive to class
7. Is thorough

(424,471)

Responsibility for Learning (Pupil)

The pupils share leadership role with the teacher a greater percentage of the time by taking the first actions in the classroom rather than always waiting for the teacher's directions and then reacting to them.

(450)

Responsive Teaching

In responsive teaching the teacher demonstrates the following behaviors:

1. In working on the content the teacher provides focus by use of structure with orient *
2. The teacher structures with public criteria *
3. The teacher develops the lesson by use of structure-turned back *
4. The teacher clarifies the content *
5. The teacher uses open structure *
6. The teacher serves to stimulate *
7. The teacher gives information directly serving as a resource *
8. The teacher evaluates positively* or negatively* with public criteria

(450)

Rigidity (Administrator)

The administrator, acting to insure that teacher performance meets the role-specifications, consistently upholds and uses policies, regulations, traditions of past practice.

(339)

Routine Behavior (Teacher)

Teacher requests information from the pupils regarding compliance with individual, class or school expectations and regulations.

(459)

Rote Emphasis (Teacher)

The teacher who uses rote emphasis demonstrates the following behavior:

1. Little encouragement offered for creative use of materials and of situations by children
2. Creative arts are not integrated with rest of program
3. Does not stimulate children to seek their own answers to questions
4. Does not promote group discussions which would help children to conclude why something happens or which would help to lead to a generalization
5. Fails to raise questions which have no unique answer
6. Fails to encourage children to experiment
7. Does not encourage expression of child's own ideas or interests
8. Does not encourage initiative or originality
9. Is threatened and reacts negatively when pupils call on other school staff for special assistance
10. Teacher is concerned only with specific curriculum
11. Does not greet new ideas with excitement
12. Does not challenge old ideas and frowns upon pupils doing so
13. Uses drill under pressure where speed and accuracy are demanded
14. Rejects atypical products
15. Emphasis is solely on learning presented facts and methods
16. Discourages child's use of individual or alternative methods of problem solving

(424)

Satisfaction (Teacher)

The teacher's stated degree of satisfaction with:

1. The way in which her efforts are recognized
2. Her relationships with parents, fellow staff members, administration, pupils, school, activities outside classroom
3. Her role in identifying and developing school goals
4. The availability of materials for instruction
5. Community expectations regarding personal behavior
6. Interest in learning displayed by students in school

(318)

Schoolwork, Required and Additional (Pupil)

Pupils reported in writing how often they did required schoolwork and how often they did extra, non-required schoolwork.

(303)

Security

This is an atmosphere in which the child is given both support and acceptance. Support is provided when the child is given approval, encouragement, and praise. The guidance and criticism is provided in objective, non-personal terms.

(424)

Security and Comfortable Living, Teacher

Teachers feel secure and comfortable when:

1. Tenure in a position is assured after a specified period of time (teacher who has been given a satisfactory rating by the the supervisor(s) cannot be dismissed without specific charges)
2. Pension plans, hospitalization and group insurance are provided
3. Sick leave of a specified number of days is provided
4. Teachers' salaries are sufficient to provide living quarters and physical needs commensurate with the standards of the community

(390)

Self-Acceptance (Administrator)

The administrator's acceptance of himself as can be determined by Bill, Bance, and McLean's Index of Adjustment and Values.

(308)

Self-Controlling Teacher

The self-controlling teacher demonstrates the following traits and behaviors:

1. Exercises effort to make things run smoothly
2. Plans excessively
3. Is disturbed when plans go awry
4. Is rigid in making on the spot changes in his plans
5. Is submissive in relation to authority figures
6. Speaks less than 50% of the time giving few pre-emptory orders
7. Welcomes pupil participation in the form of questions and discussion

(Manifold Interest Schedule and Heil's Teacher Observation Scale) (424)

Self-Development

The principal who is working toward self-development:

1. Reads many books
2. Listens to others
3. Reevaluates his role
4. Attends many conferences and meetings
5. Studies in university courses
6. Assumes leadership positions in curriculum committees at local state, and national levels

(284)

Self-Discovery Method

Pupils are presented with a problem by the teacher and are asked to solve the problem in their own way. Pupils are asked to arrive at a generalization or a solution to the problem. This method may be accompanied by no assistance from the teacher or some degree of assistance based upon the pupils' requests.

(413)

Self-Direction (Pupil)

Pupils demonstrate self-direction when they instruct and evaluate themselves in accordance with personal objectives and environmental expectations and demands. Behaviors such as the following are indicative of self-direction:

1. Pupil designs a course of study for himself
2. Pupil formulates his own objectives in the context of his studies
3. Pupil carries out his studies by himself
4. Pupil identifies his errors and his accomplishments

5. Pupil gives an accurate account of what his objectives are, and how far he has advanced in attaining them

(457)

Self-Rating of Effectiveness in Teaching Fundamental Skills (Teacher)

The teacher was asked rate herself by judging how well she played the role which was specified as "The teacher is responsible for providing learning experiences which will result in students' acquisition of fundamental knowledge." The teacher was asked to indicate where she would stand in a typical sample of 20 teachers with respect to her effectiveness in playing this role.

(447)

Self-Renewal (Administrator)

The administrator demonstrates a desire to increase knowledge, an effort to pursue problems deeply, and to explore his own competencies by:

1. Accepting a new administrative position in which his skills will be tested and/or he will need to develop new skills
2. Continuing his academic and professional training at the PhD level, etc.

(284)

Self-Respect (Teacher)

Teachers maintain self-respect when:

1. Job assignments are made as a result of group planning and and recommendation
2. Due dates are established jointly
3. Equal consideration is given to both sides in the case of a disagreement between teachers or between teacher and pupil
4. There are no restrictions on personal life which are required of teachers but not of adult members of the community in general
5. Rules are general (teachers remain at school until work is completed) rather than specific (all teachers must remain in building for one hour after dismissal)

(370)

Self-Selection Method

The teacher permits the pupils to choose from many tasks. The criterion for their choice is their interest in the particular content.
(413)

Sense of Achievement (Teacher)

Teachers feel a sense of achievement when:

1. Teachers are assigned to teach grades and subjects for which they have had training, and which they say they would like to teach. In-service training is provided for new curricula, new equipment, new techniques
2. There is an evaluation program based on the amount of growth in achievement of students. Teachers are informed of student progress. Teachers are encouraged to make studies of individual students, and to maintain contact with them after they have left school
3. Opportunities for promotion are advertised, and teachers who express interest and meet qualifications are urged to apply. The basis for promotion is clearly defined

(370)

Sense of Belonging (Teacher)

Teachers feel a sense of belonging when:

1. The principal or supervisor arranges for a number of social occasions when the staff meets; teacher orientation programs are held in which teachers are informed of school and community resources
2. Small committees are established to study specific problems identified by staff members
3. Contributions of individuals are recognized verbally or in bulletins
4. Staff members who have been away are informed of activities, decisions, changes which occured during their absences
5. Teachers are encouraged to make suggestions and to plan in groups and with principal for joint projects

(370)

Sensory Experience

The pupils are directed by the teacher to sense odor, such as tar, fresh paint, farm smells, to note sounds such as building noises, leaves, animals, water pump, to observe details such as going up and down a hill, where school materials are located, details on a neighborhood walk and farm trip, to feel texture such as the fur of a kitten, a tree trunk, farm produce.
(816)

Shadows on the Floor, Nonverbal Cue, Increased Motivation

Shadows on the floor indicate the passage of time, the shape of a window, a marker of the season and serve to encourage the child to investigate further.

(1007)

Size of Step in Programmed Instruction

1. Specified as the number of steps in a program which takes the learner from the initial to the terminal stimulus-response connections. The greater the number of steps the smaller the median size of steps

2. The percentage of incorrect responses. Fewer errors indicate a small step

(888)

Size of Step in Programmed Instruction in Spelling

1. Small step program = 1108 frames for 18-22 words
2. Medium step program = 838 frames for 18-22 words
3. Large step program = 596 frames for 18-22 words

(850)

Social Adjustment to School, Reading Readiness

Pupils display the following behaviors:

1. Behavior in class and on the playground conforms to the requirements of the teacher and school
2. Attends to his physical needs by himself
3. Refrains from crying easily (702)
4. Shares materials with peers
5. Listens attentively and contributes without interrupting
6. Joins others in play most of the time

(737)

Social Effectiveness and Emotional Stability (Pupil)

Pupils demonstrate social effectiveness in interpersonal relations and emotional stability under normal and abnormal conditions of stress when they display the following behaviors:

1. Accept assignments and carry them out
2. Assist others when they are needed
3. Accept others' viewpoints, even when they disagree with these viewpoints

4. Do not panic in emergencies, but act quickly in ways to alleviate the problem (457)

Social Emotional Adjustment in Classroom (Pupil)

Pupils who are socially and emotionally adjusted demonstrate the following behaviors:

1. Are orderly
2. Are manageable
3. Are cooperative
4. State satisfaction with activities (992)

Social Organization

Social organization is defined as the number of groups into which the teacher arranges the class and the percentage of time the teacher speaks. A class scoring high is one in which it is relatively common to find the class broken up into two or more groups working independently, and in which the teacher talks relatively little. (447)
(OS_cAR)

Social Orientation (Pupil)

The pupil's social orientation is the degree to which the pupil anticipates being liked rather than disliked by his peers and teacher. (424)
(Assessing Children's Feelings)

Social Support for Principal

The principal states that he can talk frankly with superior about difficulties with staff or other school problems. (320)

Social Support for Staff

Teachers state that they can discuss frankly with the principal their problems relating to pupils and other problems relating to teaching or their personal lives. (320)

Sociometric Position (Pupil)

The pupil's position in the class determined by the use of the sociogram. A pupil's high position is indicated by great acceptance by most of his peers; a pupil's low position is indicated by acceptance by very few of his peers in the given classroom.

(991)

Solicitous Teacher

The teacher offers help or expresses concern for the well-being and general welfare of the student or student group.

(429)

Sound-Symbol Approach to Reading

Teacher gives students the sound of each symbol prior to teaching of words.

(623)

Space, Flexibility of

Movable walls, portable cabinetry (to achieve visual separation as needed) within a large (8,000 square feet) instructional area.

(1002)

Spatial Relations Perception (Pupil)

Pupil copies patterns by linking dots.
(Frostig Developmental Test of Visual Perception)

(936)

Specialist in Content (Principal)

The principal who serves as a subject matter specialist does the following:

1. Observes, confers with, demonstrates for teachers to help them identify their needs and select relevant workshops and university courses.
2. Studies subject area to keep informed of changes and innovations
3. Conducts in-service workshops for teachers

(284)

Specialization (Teacher)

The teacher teaches the subject or subjects in which he has expressed special interest and in which he has had a specified number of semester hours of training.

(28)

Spontaneity

A self-initiated activity on the part of the pupil not being performed at the suggestion or demand of the teacher. Verbal expressions on the part of the pupil are freely given; pupil responses are made without hesitation.

(404)

Staff Members, Principal's Responsibilities to New

The principal's responsibilities to new staff members include the following:

1. Introducing to staff (individually if possible)
2. Defining clearly the functions and responsibilities (classes, record-keeping, schedules, duties)
3. Listing services, regulations, etc.
4. Describing background and accomplishments of staff members
5. Assigning an experienced teacher to help new teacher get started
6. Giving information on community resources (church, housing, shopping, services)
7. Providing orientation (meetings, visits, helping teacher)

(370)

Stereotyped Teaching

Stereotyped teaching results when the teacher uses the same written lesson plans year after year; the teacher does not use students' suggestions for activities.

(370)

Stereotyping of Pupils

Students who are stereotyped are designated as smartest, dullest, shortest, tallest, fattest, thinnest, slowest, fastest.

(219)

Stimulating Teacher

The stimulating teacher demonstrates the following behaviors:

1. Is highly interesting in presentation of material
2. Is clever and witty, though not smart-alecky or wise-cracking
3. Is enthusiastic and animated
4. Gives assignments which are challenging
5. Brings lesson to a successful climax (424,471)
6. Offers suggestions or alternatives from which the students may choose to act or not to act

(429)

Strivers, Pupil Personality Profile

Children who are strivers are characterized by the following traits and behaviors:

1. Set high goals of attainment for themselves
2. Demonstrate drive for recognition, particularly as regards school
3. Exhibitionistic needs- children show off
4. Withhold information regarding themselves
5. Anger readily aroused in terms of scholastic achievement
6. Meet the demands of authority

(Assessing Children's Feelings)

(424)

Structure-Intervening

The teacher persists on a specific point or interrupts an individual or class or asks for a pupil to repeat a specific act.

(450)

Structures Back (Teacher)

The teacher turns back the structure when he turns the problem or concern back to the class or to the individual for exploration and/or solution.

(429)

Structure Without Orientation (Teacher)

In working on the content, the teacher does not state the relationships of the new content to what has occurred previously in the context.

(450)

Structure Without Public Criteria (Teacher)

The teacher states the area of attention - the topic, activity or problem, that the students will deal with, but does not state the reasons for their doing what they are doing.

(450)

Structuring (Teacher)

The teacher structures when he announces the area of attention to which the students are to respond. The content of the structure may be a topic , a problem or any activity. The teacher chooses the content to which the students will respond. He may open it to exploration or in varying degrees may limit or close it.

(429)

Structured Teacher, Highly

The highly structured teacher is one who:

1. Gives clear directions on how to set up work, how the immediate work fits in with past work, future work
2. Makes assignments clear
3. Answers pupils questions promptly
4. Evaluates their work promptly

(424)

Subjective Teacher

The subjective teacher demonstrates the following behaviors:

1. Makes decisions without having pertinent facts
2. Makes decisions based on emotions rather than upon facts
3. Does not let child have his say in a teacher-child conflict
4. In child-child conflicts, he lets personal likes and dislikes influence his decision
5. Resorts to force or threats to resolve conflict situations
6. Will leave child-child conflict situation unresolved or avoid accepting responsibility for rational resolution of conflict on basis of emotional reaction to situation

(424)

Submissive Group

The group shows child-like dependence by:

1. Asking permission for routine items
2. Asking for approval on all details
3. Not continuing individual development

4. Not accepting responsibility (members are late for work, tasks are not completed within designated time limits)

(370)

Succorance

The personality structure of the individual includes a need to give protection, aid, or assistance to others.

(979)

Superior Ability (Pupil)

A pupil of superior ability is one whose I.Q. score is between 113-124 (between one and two standard deviations above the mean of 100).
(Detroit Group Intelligence Test)

(240)

Superiority Feelings, Displayed by Administrator

The administrator displays feelings of superiority when:
1. He has the furniture in his office placed so that his chair is in front of a window, and the desk is between him and the person with whom he is meeting
2. He uses titles (Dr., Miss, Mr.) rather than first names
3. He decides the time and duration of a conference, and informs the teacher of his decisions
4. He permits telephone calls and other interruptions during the meeting

(370)

Supervisor, Acceptance of

Acceptance of a supervisor is demonstrated when members of the staff give supervisor information about past programs, and staff tries new programs suggested by supervisor.

(370)

Supervisor, Appointed

An appointed supervisor is a staff member assigned to
1. Bring together persons with problems with problems and resource people

2. Encourage persons to share ideas and resources
3. Listen to problems and reoommend resources or solutions
4. Bring suggestions and materials to teachers
5. Plan and arrange for meetings to discuss any aspect of pupil progress or curriculum in which teachers express an interest (370)

Supervisory Duties, Team Tasks

These tasks are performed by the total team, a sub-group, or an individual member and include all activities (visits, reports, conferences) carried out to make certain other tasks have been completed. (260)

Supportive Teacher

The teacher gives praise or commendation or expresses appreciation for an action in a way that gives acceptance to the individual as a person. (429)

Synthesis

The individual puts together elements and parts so as to form a whole. This involves the process of working with pieces, parts, elements etc., and arranging and combining them in such a way as to constitute a pattern or structure not clearly there before. (457)

Systematic, Businesslike Teacher

This teacher demonstrates the following behaviors:
1. Provides a planned though flexible procedure
2. Is well prepared
3. Is careful in planning with pupils
4. Is systematic about procedure of class
5. Anticipates pupils' needs
6. Provides reasonable explanation
7. Holds discussion together; objectives are apparent (471)

Teacher Assistant, Clerical Tasks

Non-teaching clerical activities carried out by the tracher assistant include:

1. Typing
2. Filing and cataloging materials
3. Running duplicating machines
4. Keeping health and attendance records
5. Taking notes at meetings when asked
6. Making arrangements for use of equipment or facilities
7. Checking supplies
8. Collecting money for designated purposes

(37)

Teacher Assistant, Housekeeping Tasks

Non-teaching custodial activities carried out by the teacher assistant include:

1. Preparing the classroom for the next day (arranging furniture, setting up equipment)
2. Feeding pets
3. Watering plants
4. Cleaning aquarium, etc.
5. Checking on fresh air, lighting, temperature of room

(37)

Teacher Assistant, Monitorial Tasks

Non-teaching caring, monitorial, or escorting activities carried out by the teacher assistant include:

1. Checking daily on health of pupils
2. Weighing and measuring pupils
3. Giving first-aid to pupils
4. Taking home pupils who are sick or hurt
5. Checking playground equipment for safety
6. Helping supervise children in an assembly program
7. Watching pupils to prevent unruly behavior
8. Guarding doors of the school
9. Taking pupils to and from various places (lunchroom, nurse's room, principal's office, lavatory, gymnasium)
10. Assisting teachers to supervise children on a trip
11. Supervising lunchroom, hallways, study rooms, library, bus, playground
12. Helping pupils get ready to put on an assembly program (supervising pupils making costumes, scenery; watching rehearsals)

(37)

Teacher Assistant, Supportive Functions

Supportive activities carried out by the teacher assistant include:

1. Activities directly related to the teaching-learning process:
   a. Playing games with pupils (rhyming, guessing, finger games)
   b. Showing a restless pupil some available activities
   c. Listening to pupils talk about themselves
   d. Talking with pupils about what they are playing
   e. Listening to a pupil tell a story
   f. Acting out a story with pupils
   g. Reading and telling stories to pupils
   h. Taking a small group of pupils on a neighborhood walk
   i. Singing with a group of pupils
   j. Supervising a small group of pupils which is working on a special project while the teacher works with another group
   k. Supervising and helping pupils move from one activity to another in the classroom
   l. Showing and helping young children in the use of crayons, paint, scissors, paste, etc.
   m. Showing pupils how to clean up and put away materials.
   n. Helping pupil look up information in a book
   o. Helping pupil select a library book
   p. Helping pupils improve special skills (in physical activities, sewing, dancing,etc.)
   q. Helping a pupil understand a teacher's directions
   r. Telling a pupil what happened when he was absent
   s. Helping a student use a teaching machine
   t. Helping pupils learn proper use of tools and equipment

(25)

2. Activities directly related to assisting teachers to plan or evaluate:
   a. Helping teacher plan trips with pupils
   b. Helping teacher make arrangements for trips
   c. Attending meetings and planning sessions with teachers
   d. Giving a teacher information about a pupil
   e. Writing down what a pupil is doing (keeping anecdotal records for a teacher)
   f. Keeping a record of how pupils work or play together

(25)

3. Activities directly related to pupil social growth:
   a. Explaining school rules to pupils
   b. Helping pupils settle an argument
   c. Talking quietly with a pupil who is upset
   d. Encouraging a pupil to improve his manners
   e. Encouraging a pupil to do something new, and perhaps, a little more difficult than he thinks he can do
   f. Encouraging pupils to help each other

g. Helping pupils to learn to play and work together (teaching them to take turns, share materials, etc.)
h. Giving a pupil an opportunity to demonstrate something he can do well

(25)

Teacher Assistant, Technical Functions

Non-teaching technical functions carried out by the teacher assistant include:

1. Preparing audio-visual materials (charts, transparencies, tapes, etc.) at the request of the teacher
2. Operating equipment (projector, tape recorder, record player)
3. Preparing bulletin board displays

(25)

Teacher-Centered Psychological Climate

The teacher-centered instructor demonstrates the following behaviors:

1. In discussing classroom problems he indicates no awareness of personal limitations
2. Resorts to violence to maintain or restore order
3. Shouts to be heard
4. Seeks personal gratification at children's expense
5. His punishment is motivated by vengeance
6. Does not admit to the possibility that he may be wrong
7. Will not admit to possibility that personal perception of conflict may distort reality of situation
8. Handles anti-social act by threat, punishment, shaming, anger
9. Evasion of a child's protest or complaint
10. Refuses the floor to a child who is bursting to speak
11. Postpones fulfillment of child's request without expressed reason or consideration
12. Reacts with sarcasm, hostility, or irritability to child's demand
13. Criticism is phrased in such a way as to injure child's self-esteem
14. Is sole arbiter of behavioral standards
15. Will not tolerate any criticism directed towards him
16. Lacks awareness of particular problems in class
17. Fails to deal with particular problems in class
18. Is careless about providing for physical comfort of children in classroom

(424)

Teaching

The face-to-face relationship between teacher and student characterized by discourse or conversation which is directed toward the achievement of subject matter objectives and school goals. (Teaching is one of the processes of instruction.)

(359)

Teaching Practices, Newer

The teacher adopts and uses innovative practices such as field trips, school gardens, homeroom programs, informal seating, individualized instruction, etc.

(226)

Team Tasks

The following tasks are performed by the total team, a sub-group, or an individual member:

1. Observation*
2. Instructional Planning*
3. Instruction*
4. Research and Development*
5. Evaluation*
6. Clerical Duties*
7. Supervisory Duties*

(260)

Team Teaching

A group of teachers, as an organized unit, accept and carry out decision-making responsibilities for a set of instructional variables such as time, space, group size, group composition, teacher assignment, resource allocation for a specified group of pupils.

(359)

Teamwork, Staff

Staff teamwork results when:

1. The principal states that leadership is to be shared, is not the sole property of the appointed leader
2. He encourages and provides opportunities for staff members to participate in administrative and supervisory activities
3. Special talents and training of staff members are recognized and used

4. Faculty meetings and staff committees are chaired by teachers
5. Teachers participate in making decisions of policy that affect them
6. The principal assumes a peer relationship during staff discussions
7. Decisions are made by consensus rather than by majority rule
8. The principal defines clearly with staff members the limits of their power (when they have the authority to make a decision and when they can only recommend)
9. The principal never vetoes a decision when he has assigned its making to the staff
10. Staff members make a large number of recommendations and suggestions
11. When recommendations cannot be implemented, he explains reasons to the staff
12. The principal accepts and carries out his responsibilities as appointed leader of the school

(357)

Term-to-Term Flexibility (Learning Space)

Learning space may be changed to accomodate changes in the school schedule: more classes, fewer students, more seminars, requiring several days of custodial or builder help. Demountable partitions are usually used.

(1003)

Thrust (Principal)

The principal demonstrates thrust when he:

1. Goes out of his way to help teachers
2. Sets an example by working hard himself
3. Uses constructive criticism and explains his reasons for criticism to teachers
4. Is well-prepared when he speaks at school functions
5. Is in the building before teachers arrive
6. Tells teachers of new ideas he has come across
7. Is easy to understand

(Organizational Climate Description Questionnaire)

(326)

Time, Effective Use

The program is so designed that:

1. Pupils who need specific instruction from the teacher are

given it at the level indicated by achievement test scores
2. Pupils who can select their own goals, set their pace, and check their progress do so
3. As students complete the year's work in spelling, arithmetic, reading, they go on to the books of the next grade
4. Extra time is devoted to creative writing, specialized reading in literature, science or social studies

(76)

Tolerance (Teacher)

The teacher displays little criticism, disapproval, ridicule, hostility and anger toward students.

(479)

Tool Skills

This area may be divided into broad tool skills such as communication, reading, computing and more specific skills such as the use of a slide-rule, microscope, protractor, etc.

Pupil behaviors demonstrating general skills are:

1. Reading materials out loud
2. Giving oral or written summaries
3. Filling out forms according to instructions

Pupil behaviors related to specific skills are:

1. Using a microscope, protractor, slide rule correctly
2. Building equipment according to instructions
3. Performing mental arithmetic operations accurately

(457)

Transactional Leader

The transactional leader is the intermediate type of leader, balanced between the extremes of nomothetic* (goal-oriented) and idiographic* (personal relationships-oriented) leaders. He works to achieve a balance between the demands of the institution and the requirements of the people in it, shifting his emphasis from task accomplishment to needs-fulfillment as the situation changes.

(318)

Translation

Given one set of terminology, the student conveys the same meaning with another set of terminology.

(457)

Understanding, Levels of, in Classroom Discussion (Pupil)

Pupils' comments made during classroom discussion were classified at the following four levels of understanding:

Level 1

1. Pupils remember subject matter from the lesson	U1
2. Pupils state facts, principles, concepts	U1A
3. Pupils state illustrations	U1B
4. Pupils give interpretations	U1C
5. Pupils state opinions	U1D

Level 2

1. Pupils add to the lesson by making verbal statements	U2
2. Pupils give explanations of interpretations	U2A
3. Pupils give personal illustrations	U2B
4. Pupils state opinions	U2C
5. Pupils ask questions	U2D

Level 3

1. Pupils add to the lesson by making verbal statements	U3
2. Pupils define	U3A
3. Pupils build categories	U3B
4. Pupils state hypotheses	U3C
5. Pupils illustrate impersonally	U3D

Level 4

1. Pupils add to the lesson by making verbal statements	U4
2. Pupils make statements demonstrating critical examination of materials discussed	U4A
3. Pupils generalize and state generalizations	U4B
4. Pupils make statements demonstrating synthesizing, composing and inventing	U4C

(G. Miller's Scale of Levels of Understanding (450)

Understanding Teacher

The understanding teacher demonstrates the following behaviors:

1. Shows awareness of a pupil's personal emotional problems and needs
2. Accepts error on part of pupil
3. Is patient with pupil
4. Shows sincere sympathy with a pupil's viewpoint (471)

Verbal Understanding (Teacher)

The teachers' verbal understanding was determined by scores obtained on a test dealing with word recognition and the use of verbal analogies.
(Ryans' Inventory I.S.V.)

(471)

Visual Decoding Ability (Pupil)

The pupil comprehends pictures and written words.
(Illinois Test of Psycholinguistic Abilities)

(915)

Visual-Motor Association (Pupil)

The pupil relates meaningfully visual symbols.
(Illinois Test of Psycholinguistic Abilities)

(915)

Visual-Motor Sequencing Ability (Pupil)

The pupil reproduces a sequence of symbols previously seen.
(Illinois Test of Psycholinguistic Abilities)

(915)

Visual Perception (Pupil)

The pupil's visual perception includes the following:

1. Eye-Motor Coordination *
2. Figure-Ground *
3. Form Constancy *
4. Position in Space *
5. Spatial Relations *

(Frostig Developmental Test of Visual Perception)

(936)

Vocal Encoding Ability (Pupil)

The pupil expresses ideas in spoken words.
(Illinois Test of Psycholinguistic Abilities)

(915)

Vocational Interests

The vocational interests of an individual as can be measured by the Strong Vocational Interest Blank for Men.

(333)

Volume of Work (Administrator)

The volume of work produced by the administrator includes:

1. The number of words written
2. The number of courses of action taken
3. The number of outsiders involved in any way
4. The number of subordinates involved in any way
5. The number of communications in writing (rather than face-to-face meetings)
6. The number of times the administrator gives information to take action re, or follows action of, superiors

(332)

Warm, Friendly Teacher

The warm, friendly teacher displays the following behaviors:

1. Goes out of way to be pleasant and/or help pupils
2. Compliments pupil when it is deserved
3. Finds good things in pupils to call attention to
4. Shows concern for a pupil's personal problems
5. Shows affection without being demonstrative
6. Disengages self from a pupil without bluntness
7. Addresses questions to individual students as well as to the class
8. Responds to individual students rather than to the class as a group

(471,479)

Waverer, Pupil Personality Profile

Children who are classified as waverers are characterized by the following traits and behaviors:

1. View adults as threatening, rejecting, and punitive
2. Their hostility is touched off easily with adults, peers, and siblings
3. Extremely fearful
4. High anxiety
5. Withdraw from emotionally-toned situations
6. Do not accept responsibility for themselves, state they are being singled out and picked on
7. Floundering and indecisive
(Assessing Children's Feelings)

(424)

Word Grouping

Words may be grouped as follows:

1. Conformity to a certain phonetic rule
2. To point out likenesses and differences
3. Certain repeated letter combinations
4. Starting with root words then adding different prefixes and suffixes

(848)

Working Conditions

Pleasant working conditions include:

1. Physical conditions: schools are clean and neat; teachers are consulted as to choices of colors when rooms are painted; teachers are permitted to arrange furniture and decorate rooms as they wish; patios, terraces, and other areas are functional as well as decorative (teachers are permitted to use them for activities); a pleasant teachers' lounge is provided; sufficient supplies, materials, and equipment are available; etc.
2. Supervisory conditions: teachers feel supervisors will back them; the principal helps on request with discipline or methods; the supervisor backs up judgments with his authority after examining both sides of the situation (370)

Work-Related Activity (Pupil)

The amount of work-related activity in which the pupil was engaged was determined by the amount of time which the pupil spent in performing tasks specified by the teacher. (990)

Year-to-Year Learning Space, Flexible

Learning space may be changed to accomodate major changes in the school schedule: adding individual study carrels, new instructional media installations, more classes, etc., requiring major changes in the building (knocking down block partitions, rewiring, etc.) and involving several weeks or months of labor.

(1003)

APPENDIX C

FORM G QUESTIONNAIRE

BOARD OF EDUCATION
105 Main Street
Norwalk, Connecticut 06852

Dear Sir:

The Norwalk School System, in cooperation with New York University, is presently conducting a research study sponsored by the Ford Foundation. Our purpose is to develop an educational model for the elementary school (K-8) relating objectives, instruction, curriculum, and organization.

In the first phase of the program, the information-gathering stage, we are attempting to collect data and/or visit key projects in elementary education. We are interested in projects which are currently in progress, or those having their inception within the last ten years.

We would greatly appreciate your assisting us by completing the attached questionnaire. When there are materials that can supplement your answers to the questions, please attach them.

Your address has been added to our mailing list; when the results of the study are published, a copy will be forwarded to you.

Thank you for your cooperation.

Sincerely,

(Mrs.) Muriel Gerhard
Project Director
Behavioral Outcomes
Research Study

MG:nk

Enclosure

Form G

BOARD OF EDUCATION
105 Main Street
Norwalk, Connecticut 06852

QUESTIONAIRE - FORM G

Title of Project _____

Project Director _____

Address _____

I. Objective(s) of the Program (specific outcomes you expect to achieve by executing the program)

_____

_____

_____

_____

_____

_____

II. Specify procedures followed to achieve above listed objectives.

_____

_____

_____

_____

_____

_____

What are the unique features of the Program? Special variation(s) of

Objectives _____

Technique _____

Adaptation of materials _____

Other _____

_____

_____

III. Sample: (participants and/or materials in the study, how many, of what specific characteristics, etc.)

_____

_____

_____

_____

_____

_____

IV. Methods of testing, if any. (Please write in names of tests)

	Standard	Local	Variable tested
Performance tests	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
Paper and pencil tests	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

If a local lest, are copies available? _____

V. Findings to date _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

VI. Are there other key people working in your Program who may be contacted for further specific information?

Name: _____ Name: _____

Address: _____ Address: _____

_____ _____

VII. Are there other related projects which you have contacted, and which you feel we might contact?

Name: _____ Name: _____

Address: _____ Address: _____

_____ _____

VIII. Are visitations acceptable? _____

_____

If yes, what times/dates are convenient? _____

_____

_____

What are the conditions for visiting? _____

_____

IX. Are there any written materials available if we request them?

_____

_____

_____

_____

Return to: (Mrs.) Muriel Gerhard, Project Director
Behavioral Outcomes
Research Study
Norwalk Board of Education
105 Main Street
Norwalk, Connecticut 06852

MG:nk

Form G

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